

TOSHIBA

COLOUR TELEVISION

1400TB5, OTHERS

SUMMARY

This manual covers different parts between the following models and base models.
Use the original service data of base models together.

Applicable Model	Original Service Data	
1400TB5	File No. 050-393	1400TBT
1510TB5	File No. 050-417	1510TBT
1510TB6	File No. 053-417	1510TBW
2100TB5	File No. 050-298	2100TBT
2101TB5	File No. 054-298	2101TBT
2102TB7	File No. 053-298	2102TBZ
2103TB5	File No. 055-298	2103TBG
2500TB5	File No. 050-308	2500TBT

- For information of parts and schematic diagram, see the following pages.
- Circuits other than MAIN circuit are the same as those of base model.

DIFFERENT PARTS LIST

Location No.	Part No.	Description
1400TB5		
CAPACITORS		
C108	24085958	EL, 1 μ F, \pm 20%, 50V, Non-Polar
C444	24212221	CD, 220pF, \pm 10%
C449	24794471	EL, 470 μ F, \pm 20%, 16V
C520	24797478	EL, 0.47 μ F, \pm 20%, 50V
C664	—	Delete
C685	24797100	EL, 10 μ F, \pm 20%, 50V
CA33	24794471	EL, 470 μ F, \pm 20%, 16V
RESISTORS		
R301	24366131	CF, 130 ohm
R303	24366303	CF, 30k ohm
R405	24366431	CF, 430 ohm
R407	24366910	CF, 91 ohm
R409	24366204	CF, 200k ohm
R442	24366105	CF, 1M ohm
R502	24366334	CF, 330k ohm
R506	24366154	CF, 150k ohm
R509	24366183	CF, 18k ohm
R511	24366562	CF, 5600 ohm
R512	24366182	CF, 1800 ohm
R513	24366122	CF, 1200 ohm
R534	—	Delete
R536	24366331	CF, 330 ohm
R538	24366391	CF, 390 ohm
R539	24366102	CF, 1k ohm
R561	24366122	CF, 1200 ohm
R664	—	Delete
RA02	24366103	CF, 10k ohm
RA03	24366561	CF, 560 ohm
RA04	24366472	CF, 4700 ohm
RA05	24366103	CF, 10k ohm
RA12	—	Delete
RA15	—	Delete
RA64	—	Delete
RA98	—	Delete
RA99	—	Delete
RF80	—	Delete
RF82	—	Delete
RF84	—	Delete
RX04	24366751	CF, 750 ohm
RX10	24366471	CF, 470 ohm
RX20	24366271	CF, 270 ohm
RX21	24366271	CF, 270 ohm
RX22	24366271	CF, 270 ohm
COILS & TRANSFORMERS		
L203	23237973	Coil, Peaking, TRF4151AC
LF81	—	Delete
LX01	—	Delete
LX02	—	Delete
LX03	—	Delete
LX04	—	Delete
T461	23236428	Transformer, Flyback, AT2079/23
SEMICONDUCTORS		
IC501	B0384305	IC, TA8808AN
ICA01	23904490	IC, M34300-687SP
QF81	23314374	Transistor, BD945

Location No.	Part No.	Description
MISCELLANEOUS		
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
XF01	—	Delete
XF02	—	Delete
XF03	—	Delete
PC BOARD ASSEMBLIES		
U902A	23701917	Main Board, PB3826-1
U902B	23701948	CRT Drive Board, PB3826-2
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
CABINET PARTS		
A002	23418655	Front Cover
A004	23423757	Back Cover
A710	23568639	Label, Model No., Carton
1510TB5		
CAPACITORS		
C411	24590222	PF, 2200pF
C508	24085028	EL, 2.2 μ F, 25V, Non-Polar
C664	—	Delete
C685	24794100	EL, 10 μ F, \pm 20%, 16V
CF82	—	Delete
CF83	—	Delete
RESISTORS		
R451	24066600	VR, 10k ohm, 1/10W
RA02	24366103	CF, 10k ohm
RA03	24366561	CF, 560 ohm
RA04	24366472	CF, 4700 ohm
RA05	24366103	CF, 10k ohm
RA12	—	Delete
RA15	—	Delete
RF80	—	Delete
RF81	24383103	OMF, 10k ohm, 2W
RF82	—	Delete
RF84	—	Delete
RX20	24366271	CF, 270 ohm
RX21	24366271	CF, 270 ohm
RX22	24366271	CF, 270 ohm
COILS & TRANSFORMERS		
LF81	—	Delete
LX01	—	Delete
LX02	—	Delete
LX03	—	Delete
LX04	—	Delete
SEMICONDUCTORS		
ICA01	23904490	IC, M34300-687SP
QF81	23314374	Transistor, BD945
MISCELLANEOUS		
K901	23120220	Remote Sensor, IR-9109A-K

Location No.	Part No.	Description
PC BOARD ASSEMBLIES		
U902A	23701903	Main Board, PB3824-1
U902B	23701915	CRT Drive Board, PB3824-2
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
CABINET PARTS		
A002	23419201	Front Cover
A004	23424520	Back Cover
A711	23568640	Label, Model No., Carton
1510TB6		
CAPACITORS		
C411	24590222	PF, 2200pF
C508	24085028	EL, 2.2 μ F, 25V, Non-Polar
C664	—	Delete
C685	24794100	EL, 10 μ F, \pm 20%, 16V
CF82	—	Delete
CF83	—	Delete
RESISTORS		
R451	24066600	VR, 10k ohm, 1/10W
R664	—	Delete
RA02	24366103	CF, 10k ohm
RA03	24366561	CF, 560 ohm
RA04	24366472	CF, 4700 ohm
RA05	24366103	CF, 10k ohm
RA12	—	Delete
RA15	—	Delete
RF80	—	Delete
RF81	24383103	OMF, 10k ohm, 2W
RF82	—	Delete
RF84	—	Delete
RX03	24366122	CF, 1200 ohm
RX20	24366271	CF, 270 ohm
RX21	24366271	CF, 270 ohm
RX22	24366271	CF, 270 ohm
COILS & TRANSFORMERS		
LF81	—	Delete
LX01	—	Delete
LX02	—	Delete
LX03	—	Delete
LX04	—	Delete
SEMICONDUCTORS		
ICA01	23904490	IC, M34300-687SP
Q803	—	Delete
QF81	23314374	Transistor, BD945
MISCELLANEOUS		
K901	23120220	Remote Sensor, IR-9109A-K
PC BOARD ASSEMBLIES		
U902A	23701903	Main Board, PB3824-1
U902B	23701915	CRT Drive Board, PB3824-2

Location No.	Part No.	Description
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
CABINET PARTS		
A002	23419765	Front Cover
A004	23424520	Back Cover
A711	23568715	Label, Model No., Carton
2100TB5		
CAPACITORS		
C502	—	Delete
C503	24436181	CD, 180pF
C504	24436181	CD, 180pF
RESISTORS		
R320	—	Delete
R409	24366204	CF, 200k ohm
R501	24366561	CF, 560 ohm
R508	24366561	CF, 560 ohm
R524	—	Delete
R525	—	Delete
R526	—	Delete
R527	—	Delete
R664	—	Delete
R667	—	Delete
R920	24000906	FR, 2.4 ohm, 2W
RA02	24366472	CF, 4700 ohm
RA03	24366103	CF, 10k ohm
RA04	24366560	CF, 56 ohm
RA15	—	Delete
RA18	24366103	CF, 10k ohm
RH07	24366271	CF, 270 ohm
RH09	24366271	CF, 270 ohm
RH11	24366271	CF, 270 ohm
COILS & TRANSFORMERS		
LA02	—	Delete
SEMICONDUCTORS		
IC501	B0384303	IC, TA8808BN
ICA01	23904501	IC, M34300-688SP
Q502	—	Delete
Q503	—	Delete
D405	—	Delete
MISCELLANEOUS		
K901	23120303	Remote Sensor, IR-9109-K
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
XF01	23153657	Crystal, 13.875MHz
ZF01	23107744	Filter, TEM1012
PC BOARD ASSEMBLIES		
U101A	23702092	PIF Board, PB3897-1
U101B	—	Delete
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4

Location No.	Part No.	Description
U902A	23702091	Main Board, PB3898
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
CABINET PARTS		
A002	23418569	Front Cover
A004	23423627	Back Cover
A710	23568751	Label, Model No., Carton
2101TB5		
CAPACITORS		
C368	24590104	PF, 0.1 μ F
C413	24590182	PF, 1800pF
C502	—	Delete
C503	24436181	CD, 180pF
C504	24436181	CD, 180pF
RESISTORS		
R320	—	Delete
R409	24366204	CF, 200k ohm
R501	24366561	CF, 560 ohm
R508	24366561	CF, 560 ohm
R524	—	Delete
R525	—	Delete
R526	—	Delete
R527	—	Delete
R664	—	Delete
R667	—	Delete
R920	24000906	FR, 2.4 ohm, 2W
RA02	24366472	CF, 4700 ohm
RA03	24366103	CF, 10k ohm
RA04	24366560	CF, 56 ohm
RA15	—	Delete
RA18	24366103	CF, 10k ohm
RH07	24366271	CF, 270 ohm
RH09	24366271	CF, 270 ohm
RH11	24366271	CF, 270 ohm
SEMICONDUCTORS		
IC501	B0384303	IC, TA8808BN
ICA01	23904501	IC, M34300-688SP
QF80	23314374	Transistor, BD945
MISCELLANEOUS		
K901	23120303	Remote Sensor, IR-9109-K
PC BOARD ASSEMBLIES		
U101A	23702092	PIF Board, PB3897-1
U101B	—	Delete
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825

Location No.	Part No.	Description
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
CABINET PARTS		
A002	23418842	Front Cover
A004	23423702	Back Cover
A710	23568750	Label, Model No., Carton
2102TB7		
CAPACITORS		
C368	24590104	PF, 0.1 μ F
C413	24590182	PF, 1800pF
C503	24436181	CD, 180pF
C504	24436181	CD, 180pF
RESISTORS		
R409	24366204	CF, 200k ohm
R501	24366561	CF, 560 ohm
R508	24366561	CF, 560 ohm
R524	—	Delete
R525	—	Delete
R526	—	Delete
R527	—	Delete
R664	—	Delete
R667	—	Delete
R920	24000906	FR, 2.4 ohm, 2W
RA02	24366472	CF, 4700 ohm
RA03	24366103	CF, 10k ohm
RA04	24366560	CF, 56 ohm
RA18	24366103	CF, 10k ohm
RH11	24366271	CF, 270 ohm
SEMICONDUCTORS		
IC501	B0384303	IC, TA8808BN
ICA01	23904501	IC, M34300-688SP
QF80	23314374	Transistor, BD945
MISCELLANEOUS		
K901	23120303	Remote Sensor, IR-9109-K
PC BOARD ASSEMBLIES		
U101A	23702092	PIF Board, PB3897-1
U101B	—	Delete
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English

Location No.	Part No.	Description
CABINET PARTS		
A002	23418658	Front Cover
A004	23423762	Back Cover
A710	23568708	Label, Model No., Carton
2103TB5		
RESISTORS		
R409	24366204	CF, 200k ohm
R501	24366561	CF, 560 ohm
R508	24366561	CF, 560 ohm
R524	—	Delete
R525	—	Delete
R526	—	Delete
R527	—	Delete
R664	—	Delete
R667	—	Delete
RA02	24366472	CF, 4700 ohm
RA03	24366103	CF, 10k ohm
RA04	24366560	CF, 56 ohm
RA15	—	Delete
RA18	24366103	CF, 10k ohm
SEMICONDUCTORS		
IC501	B0384303	IC, TA8808BN
ICA01	23904501	IC, M34300-688SP
MISCELLANEOUS		
K901	23120303	Remote Sensor, IR-9109-K
PC BOARD ASSEMBLIES		
U101A	23702092	PIF Board, PB3897-1
U101B	—	Delete
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
CABINET PARTS		
A002	23410097	Front Cover
A004	23425374	Back Cover
A710	23568749	Label, Model No., Carton
2500TB5		
CAPACITORS		
C502	—	Delete
C503	24436181	CD, 180pF
C504	24436181	CD, 180pF
RESISTORS		
R320	—	Delete
R508	24366561	CF, 560 ohm
R524	—	Delete

Location No.	Part No.	Description
R525	—	Delete
R526	—	Delete
R527	—	Delete
R664	—	Delete
RA18	24366103	CF, 10k ohm
SEMICONDUCTORS		
IC501	B0384303	IC, TA8808BN
ICA01	23904501	IC, M34300-688SP
Q502	—	Delete
Q503	—	Delete
MISCELLANEOUS		
XF01	23153657	Crystal, 13.875MHz
ZF01	23107744	Filter, TEM1012
ZF02	—	Delete
ZF03	—	Delete
ZF04	—	Delete
PC BOARD ASSEMBLIES		
U101A	23702207	PIF Board, PB3992-1
U101B	—	Delete
U101C	23702208	A/V Board, PB3992-3
U902A	23702209	Main Board, PB3989
UF01	23700263	Text Board, PB3825
ACCESSORIES		
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
CABINET PARTS		
A002	23418633	Front Cover
A004	23423735	Back Cover
A710	23568752	Label, Model No., Carton

Location No.	Part No.	Description
TEXT BOARD PB3825 (COMMON WITH ALL MODELS DESCRIBED ON COVER PAGE)		
CAPACITORS		
CF01	24797220	EL, 22 μ F, \pm 20%, 50V
CF02	24232103	CD, 0.01 μ F, +80%, -20%
CF03	24212221	CD, 220pF, \pm 10%
CF05	24436150	CD, 15pF
CF06	24436150	CD, 15pF
CF07	24590104	PF, 0.1 μ F
CF08	24212102	CD, 1000pF, \pm 10%
CF09	24212221	CD, 220pF, \pm 10%
CF10	24212102	CD, 1000pF, \pm 10%
CF11	24590104	PF, 0.1 μ F
CF12	24436470	CD, 47pF
CF14	24212271	CD, 270pF, \pm 10%
CF15	24590104	PF, 0.1 μ F
CF18	24436820	CD, 82pF
CF19	24590104	PF, 0.1 μ F
CF20	24590222	PF, 2200pF
CF21	24436100	CD, 10pF, \pm 0.25pF
CF24	24797100	EL, 10 μ F, \pm 20%, 50V
CF25	24436100	CD, 10pF, \pm 0.25pF
CF26	24436100	CD, 10pF, \pm 0.25pF
CF27	24436100	CD, 10pF, \pm 0.25pF
RESISTORS		
RF01	24366154	CF, 150k ohm
RF02	24366333	CF, 33k ohm
RF04	24366103	CF, 10k ohm
RF05	24366103	CF, 10k ohm
RF06	24366102	CF, 1k ohm
RF07	24366682	CF, 6800 ohm
RF08	24366103	CF, 10k ohm
RF11	24366102	CF, 1k ohm
RF12	24366101	CF, 100 ohm
RF13	24366122	CF, 1200 ohm
RF14	24366822	CF, 8200 ohm
RF15	24366103	CF, 10k ohm
RF16	24366333	CF, 33k ohm
RF17	24366101	CF, 100 ohm
RF18	24366101	CF, 100 ohm
RF19	24366101	CF, 100 ohm
RF20	24366101	CF, 100 ohm
RF21	24366101	CF, 100 ohm
RF22	24366101	CF, 100 ohm
RF23	24366222	CF, 2200 ohm
RF24	24366222	CF, 2200 ohm
RF25	24366222	CF, 2200 ohm
RF26	24366222	CF, 2200 ohm
RF32	24366103	CF, 10k ohm
RF33	24366223	CF, 22k ohm
RF34	24366103	CF, 10k ohm
RF35	24366223	CF, 22k ohm
RF36	24366103	CF, 10k ohm
RF37	24366223	CF, 22k ohm
RF38	24366102	CF, 1k ohm
RF39	24366102	CF, 1k ohm
RF40	24366102	CF, 1k ohm
RF41	24366102	CF, 1k ohm
RF42	24366682	CF, 6800 ohm
RF43	24366103	CF, 10k ohm

Location No.	Part No.	Description
COILS & TRANSISTORS		
LF01	23238922	Coil, Peaking, TRF4100AC
LF02	23237996	Coil, Peaking, TRF4189AC
LF03	23238922	Coil, Peaking, TRF4100AC
LF04	23238922	Coil, Peaking, TRF4100AC
LF05	23238922	Coil, Peaking, TRF4100AC
LF06	23238922	Coil, Peaking, TRF4100AC
LF10	23238922	Coil, Peaking, TRF4100AC
LF11	23238922	Coil, Peaking, TRF4100AC
LF12	23238922	Coil, Peaking, TRF4100AC
SEMICONDUCTORS		
ICF01	23904245	IC, CF70095
ICF02	23904246	IC, CF72306
ICF04	70119744	IC, PST523C
QF03	A6317440	Transistor, 2SC1815-Y
QF06	A6734585	Transistor, 2SC752GTM-O
QF07	A6734585	Transistor, 2SC752GTM-O
QF08	A6734585	Transistor, 2SC752GTM-O
QF09	A6317440	Transistor, 2SC1815-Y
QF10	A6317440	Transistor, 2SC1815-Y
DF02	A7288690	Diode, 1SV101
DF03	23115599	Diode, 1N4148
DF04	23115599	Diode, 1N4148
DF05	23115599	Diode, 1N4148
DF06	23115599	Diode, 1N4148
MISCELLANEOUS		
PF01	23367684	Plug, 11P
PF02	23367677	Plug, 4P
XF01	23153657	Crystal, 13.875MHz
ZF01	23107744	Filter, 3MHz, TEM1012

TERMINAL VIEW OF TRANSISTORS

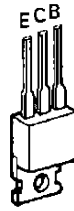
- ① BC327
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BC547B
BC547C
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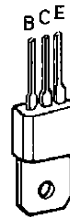
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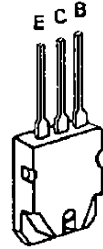
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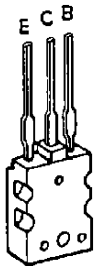
- ④ BF871
2SD553
2SC1569



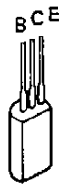
- ⑤ 2SC3678
2SC3182N



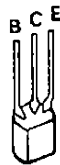
- ⑥ 2SD1427
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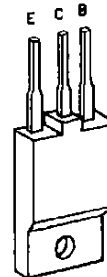
- ⑦ 2SC2482
2SA1321
2SC2230
2SA1020
2SC2655
2SC752GTM



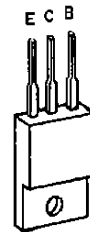
- ⑧ 2SC388ATM
2SA1015
2SC1959
2SA562TM



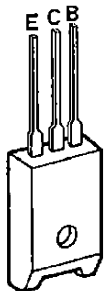
- ⑨ 2SD1548



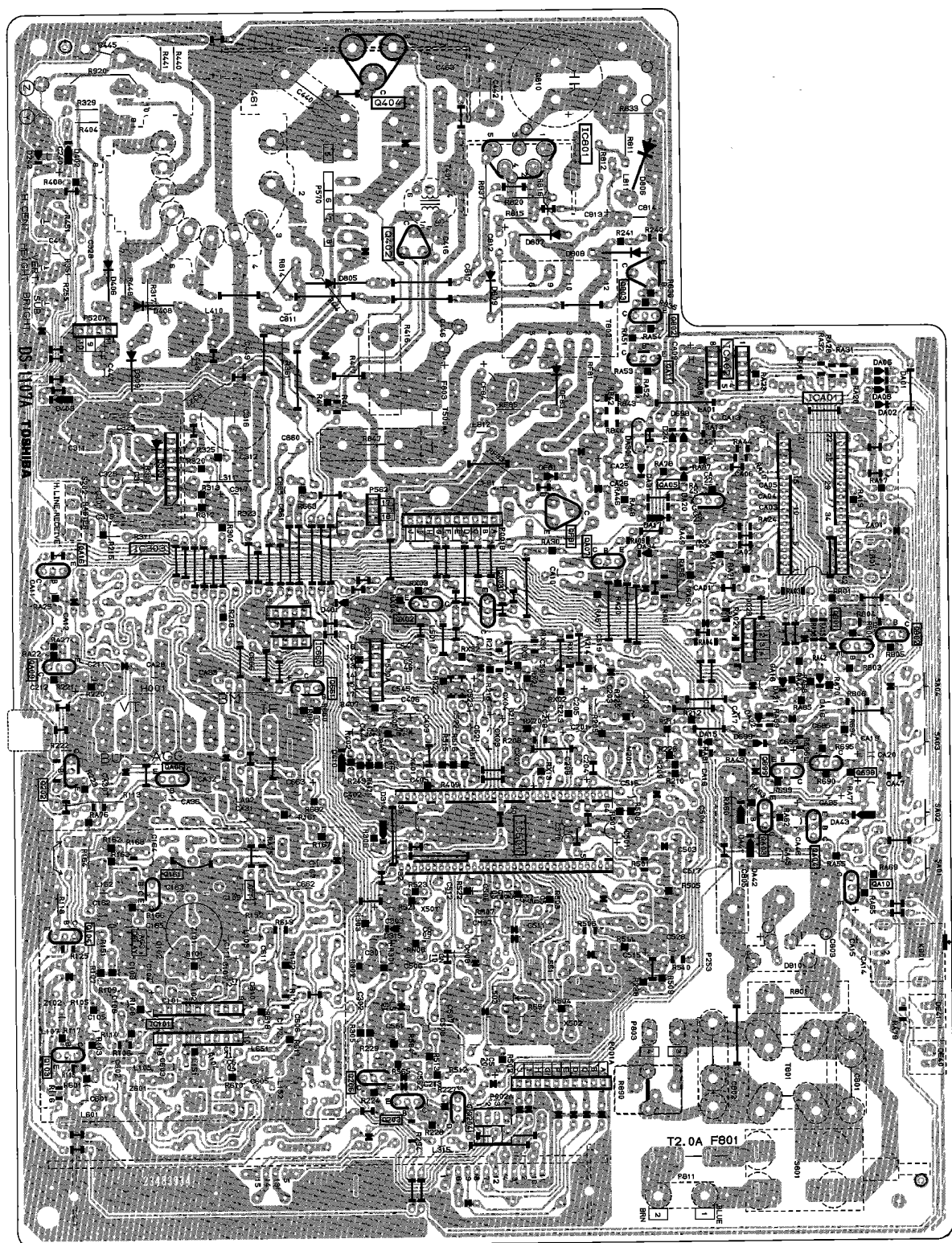
- ⑩ 2SC2023



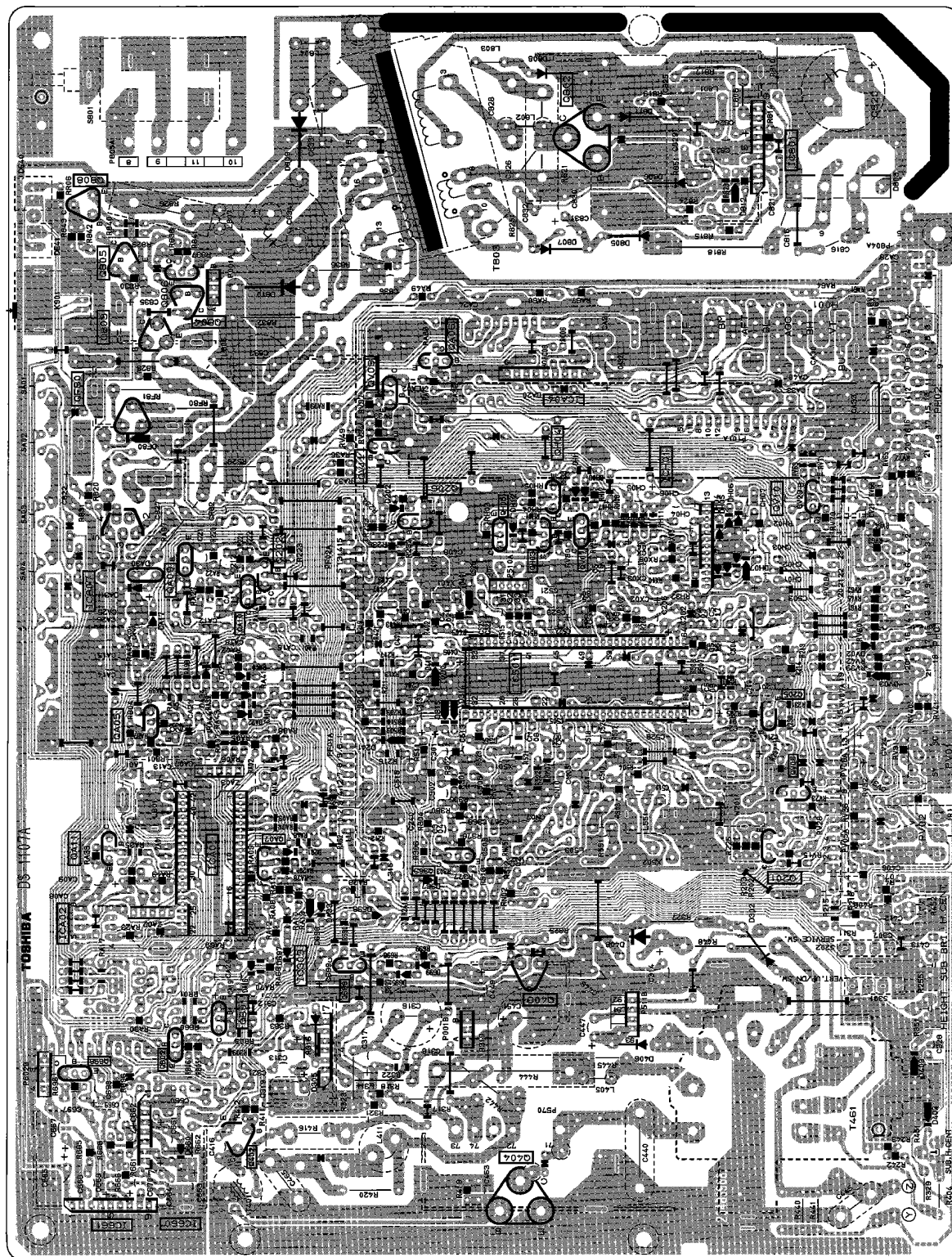
- ⑪ ON4409



BOTTOM (FOIL) SIDE



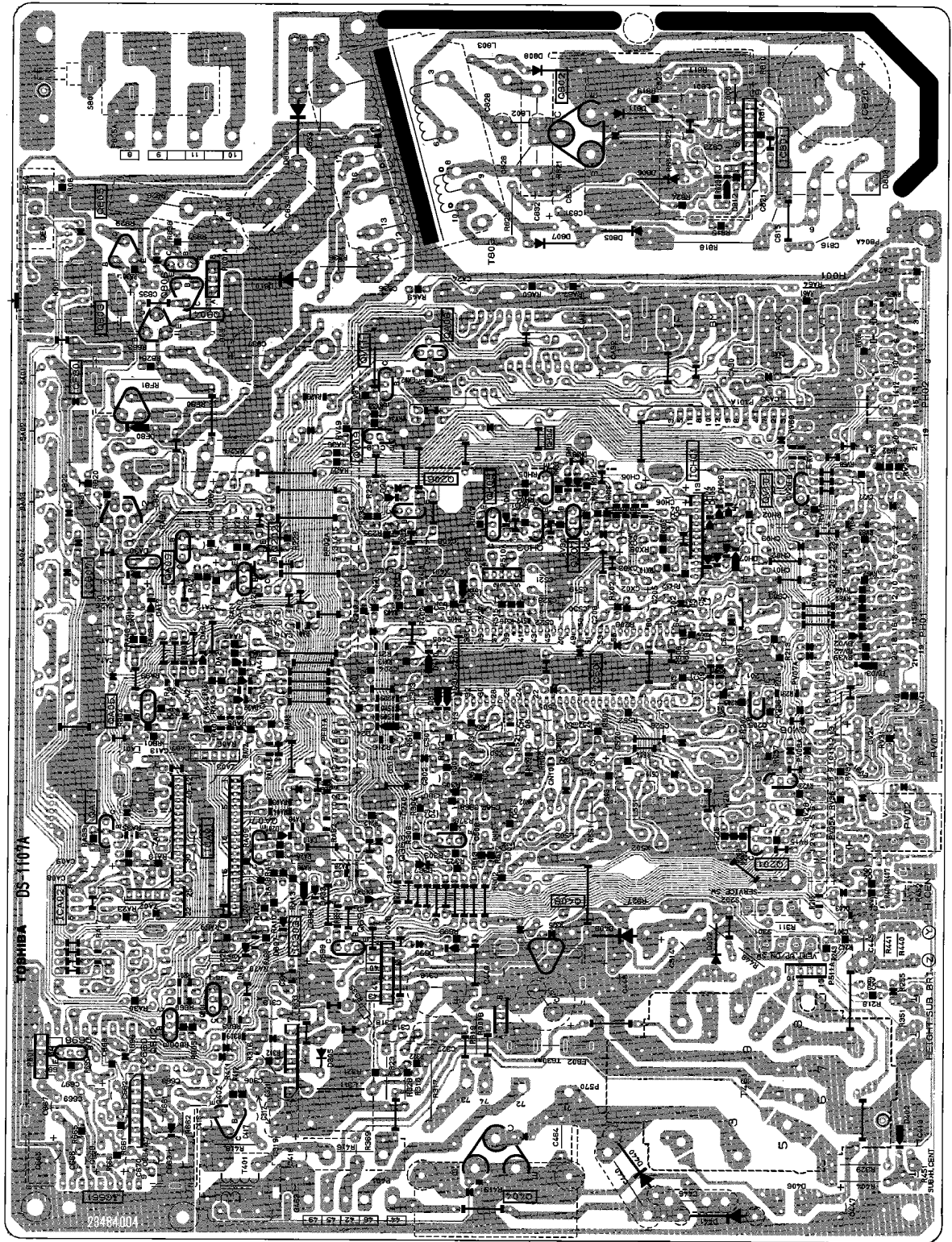
MAIN BOARD PB3898 (2100TB5, 2102TB7, 2103TB5)
BOTTOM (FOIL) SIDE



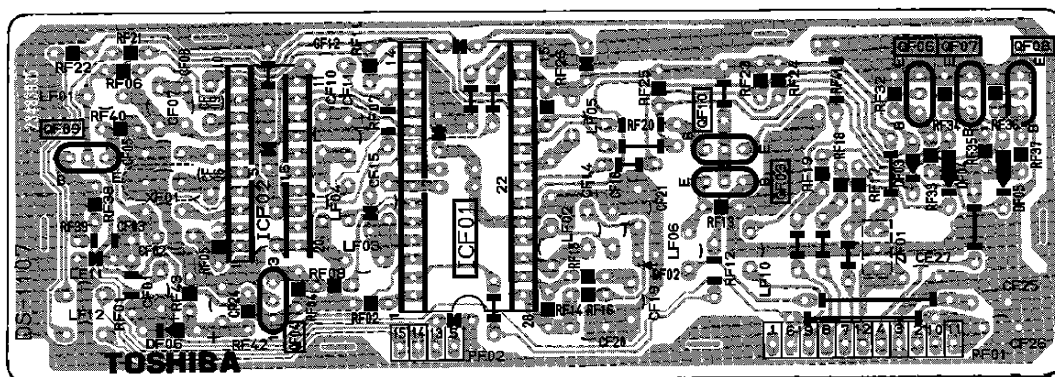
BOTTOM (FOIL) SIDE



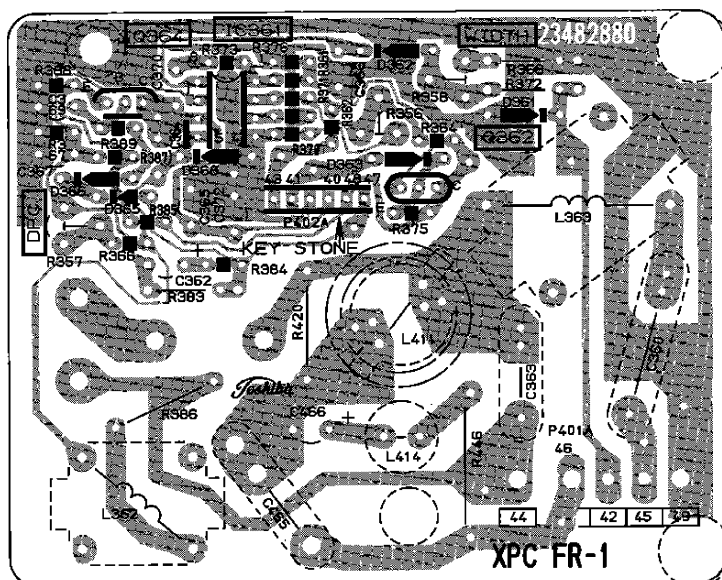
MAIN BOARD PB3989 (2500TB5)
BOTTOM (FOIL) SIDE



BOTTOM (FOIL) SIDE



BOTTOM (FOIL) SIDE



TOSHIBA

COLOUR TELEVISION

1400TB5:OTHERS

SUMMARY

This manual covers different parts between the following models and base models.
Use the original service data of base models together.

Applicable Model	Original Service Data	
1400TB5	File No. 050-393	1400TBT
1510TB5	File No. 050-417	1510TBT
1510TB6	File No. 053-417	1510TBW
2100TB5	File No. 050-298	2100TBT
2101TB5	File No. 054-298	2101TBT
2102TB7	File No. 053-298	2102TBZ
2103TB5	File No. 055-298	2103TBG
2500TB5	File No. 050-308	2500TBT

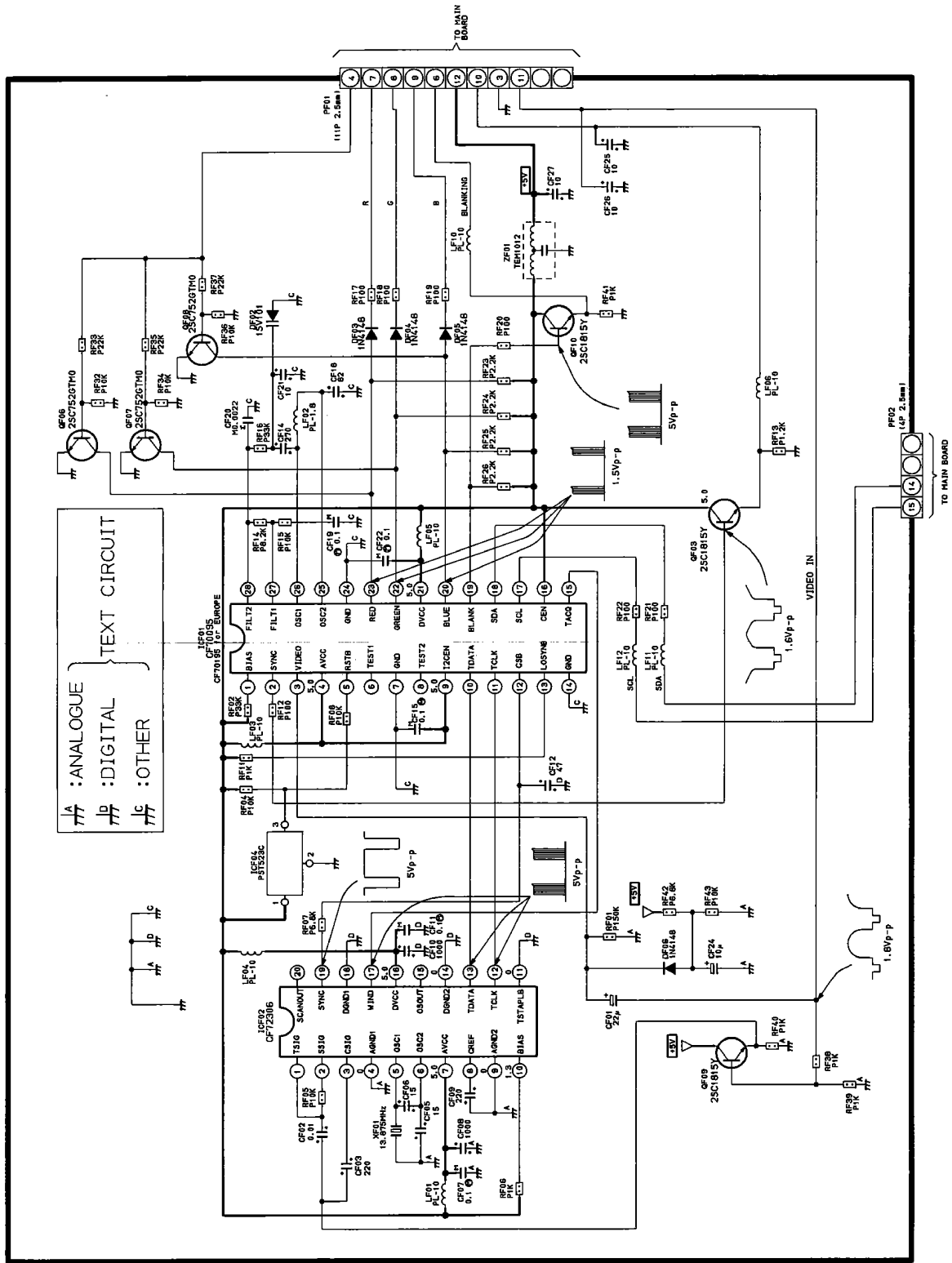
- For information of parts and schematic diagram, see the following pages.

DIFFERENT PARTS LIST

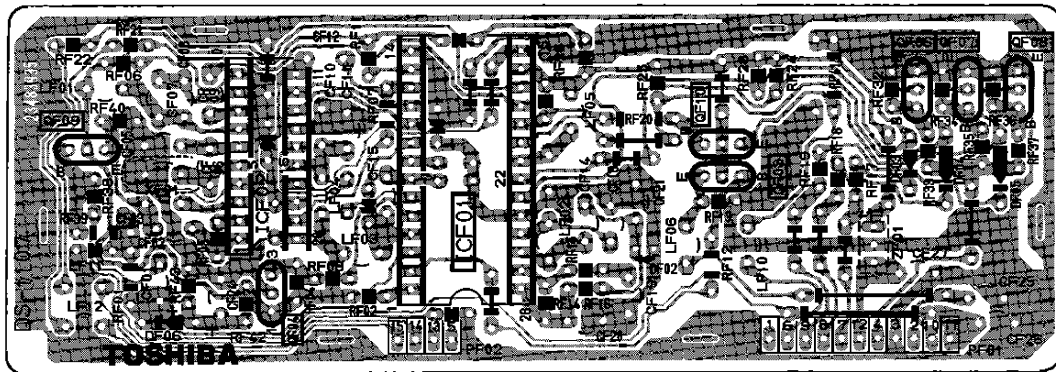
Location No.	Part No.	Description
1400TB5		
U902A	23701917	Main Board, PB3826-1
U902B	23701948	CRT Drive Board, PB3826-2
UF01	23700263	Text Board, PB3825
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
A710	23568639	Label, Model No., Carton
1510TB5		
U902A	23701903	Main Board, PB3824-1
U902B	23701915	CRT Drive Board, PB3824-2
UF01	23700263	Text Board, PB3825
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
A711	23568640	Label, Model No., Carton
1510TB6		
U902A	23701903	Main Board, PB3824-1
U902B	23701915	CRT Drive Board, PB3824-2
UF01	23700263	Text Board, PB3825
K902	23120092	Remote Hand Unit, CT-9616
Y101	23561883	Owner's Manual, English
A711	23568715	Label, Model No., Carton
2100TB5		
U101A	23702092	PIF Board, PB3897-1
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
A710	23568751	Label, Model No., Carton
2101TB5		
U101A	23702092	PIF Board, PB3897-1
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702188	Main Board, PB3977
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
A710	23568750	Label, Model No., Carton
2102TB7		
U101A	23702092	PIF Board, PB3897-1
U101C	23702093	A/V Board, PB3897-3
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
U903A	23701205	CRT Drive Board, PB3152-1
U903B	23701206	Power Board, PB3152-2
UF01	23700263	Text Board, PB3825
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
A710	23568708	Label, Model No., Carton
2103TB5		
U101A	23702092	PIF Board, PB3897-1
U101C	23702093	A/V Board, PB3897-3

Location No.	Part No.	Description
U101D	23702094	Headhone Board, PB3897-4
U902A	23702091	Main Board, PB3898
UF01	23700263	Text Board, PB3825
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
A710	23568749	Label, Model No., Carton
2500TB5		
U101A	23702207	PIF Board, PB3992-1
U101C	23702208	A/V Board, PB3992-3
U902A	23702209	Main Board, PB3989
UF01	23700263	Text Board, PB3825
K902	23120324	Remote Hand Unit, CT-9689
Y101	23561914	Owner's Manual, English
A710	23568752	Label, Model No., Carton
TEXT BOARD PB3825		
(COMMON WITH ALL MODELS DESCRIBED ON COVER PAGE)		
CAPACITORS		
CF01	24797220	EL, 22 μ F, \pm 20%, 50V
CF02	24232103	CD, 0.01 μ F, +80%, -20%
CF03	24212221	CD, 220pF, \pm 10%
CF05	24436150	CD, 15pF
CF06	24436150	CD, 15pF
CF07	24590104	PF, 0.1 μ F
CF08	24212102	CD, 1000pF, \pm 10%
CF09	24212221	CD, 220pF, \pm 10%
CF10	24212102	CD, 1000pF, \pm 10%
CF11	24590104	PF, 0.1 μ F
CF12	24436470	CD, 47pF
CF14	24212271	CD, 270pF, \pm 10%
CF15	24590104	PF, 0.1 μ F
CF18	24436820	CD, 82pF
CF19	24590104	PF, 0.1 μ F
CF20	24590222	PF, 2200pF
CF21	24436100	CD, 10pF, \pm 0.25pF
CF24	24797100	EL, 10 μ F, \pm 20%, 50V
CF25	24436100	CD, 10pF, \pm 0.25pF
CF26	24436100	CD, 10pF, \pm 0.25pF
CF27	24436100	CD, 10pF, \pm 0.25pF
RESISTORS		
RF01	24366154	CF, 150k ohm
RF02	24366333	CF, 33k ohm
RF04	24366103	CF, 10k ohm
RF05	24366103	CF, 10k ohm
RF06	24366102	CF, 1k ohm
RF07	24366682	CF, 6800 ohm
RF08	24366103	CF, 10k ohm
RF11	24366102	CF, 1k ohm
RF12	24366101	CF, 100 ohm
RF13	24366122	CF, 1200 ohm
RF14	24366822	CF, 8200 ohm
RF15	24366103	CF, 10k ohm
RF16	24366333	CF, 33k ohm
RF17	24366101	CF, 100 ohm
RF18	24366101	CF, 100 ohm
RF19	24366101	CF, 100 ohm
RF20	24366101	CF, 100 ohm
RF21	24366101	CF, 100 ohm

Location No.	Part No.	Description



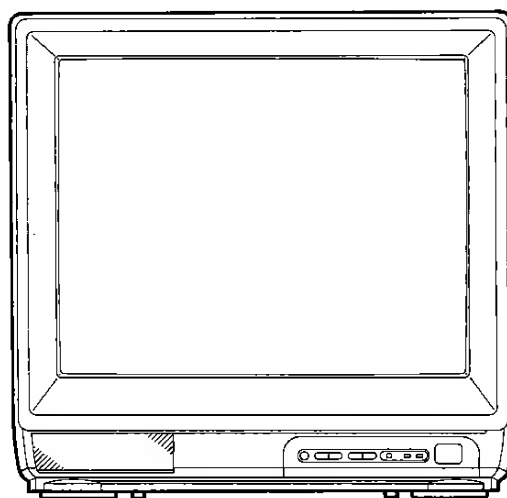
TEXT BOARD PB3825
BOTTOM (FOIL) SIDE



TOSHIBA

COLOUR TELEVISION

2100TBT



SPECIFICATIONS

Input Power Rating:	95 watts, AC 240 volts, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for UHF
Receiving Channels:	PAL I Standard: UHF channels 21 to 68
Intermediate Frequencies:	Picture I-F carrier frequency..... 39.5 MHz Sound I-F carrier frequency 33.5 MHz
Picture Tube:	21 inches, A51JRU40X05(MW), 510 mm (measured on diagonal of viewable picture area), 90° deflection
Sound Output:	3.0 watts (at 10% harmonic distortion), Max. 4.5 watts
Speakers:	70 mm x 60 mm oval
Aux. Terminals:	Headphone Jack, 21 pin socket, S-VIDEO/AUDIO socket, A/V INPUT socket
Dimensions:	Height 482 mm Width 511 mm Depth 485 mm
Weight:	20.5 kg

Specifications are subject to change without notice.



SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 27.5 kV at zero beam current (minimum brightness) operating at 240V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 29.0 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
For continued safety, replacement component should only be made after referring the Product Safety Notice below.

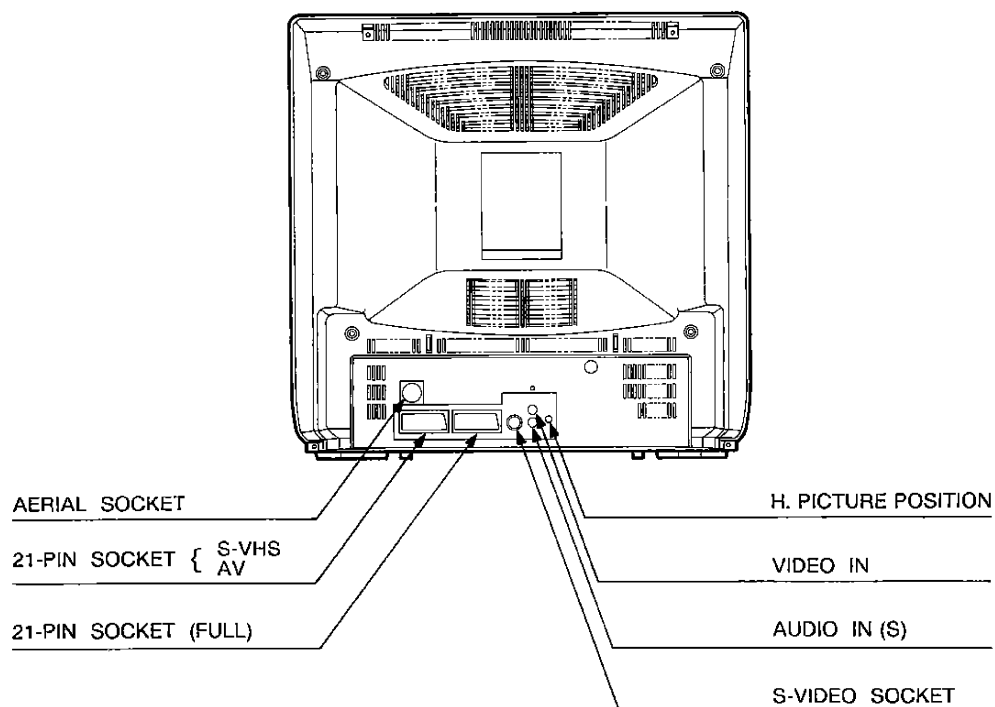
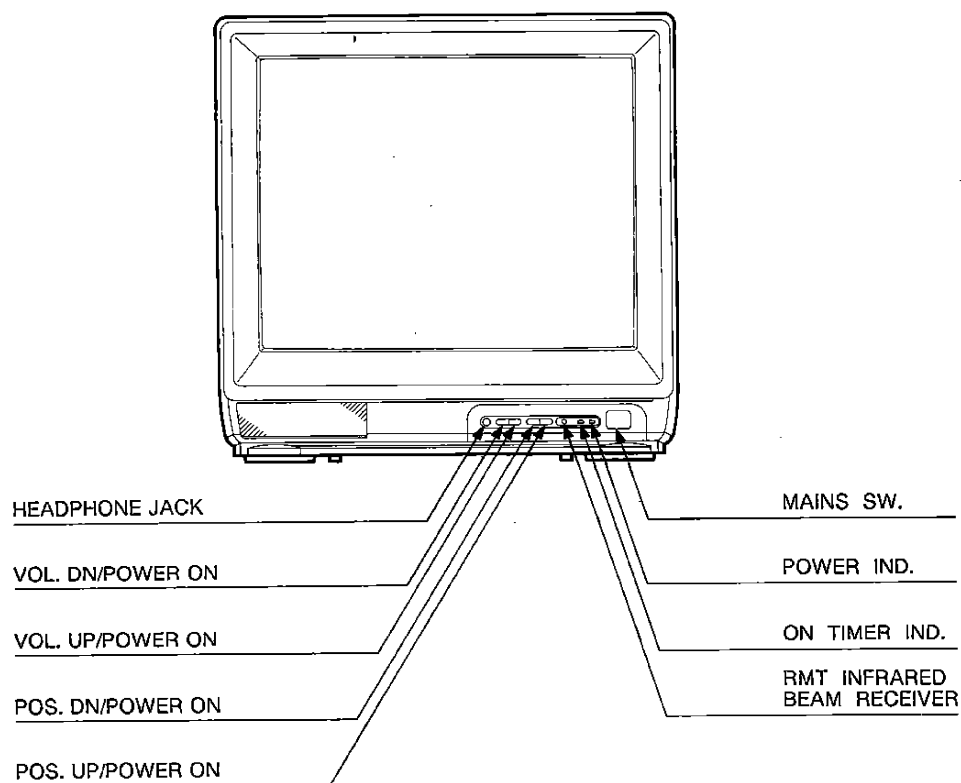
SAFETY PRECAUTION

1. This receiver has a nominal working E.H.T. voltage of 25.0 kV. Extreme caution should be exercised when working on the receiver with the back removed.
Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap.
The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
4. Replace blown fuses within the receiver with the fuse specified in the parts list.
5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
6. Keep wires away from high temperature components.

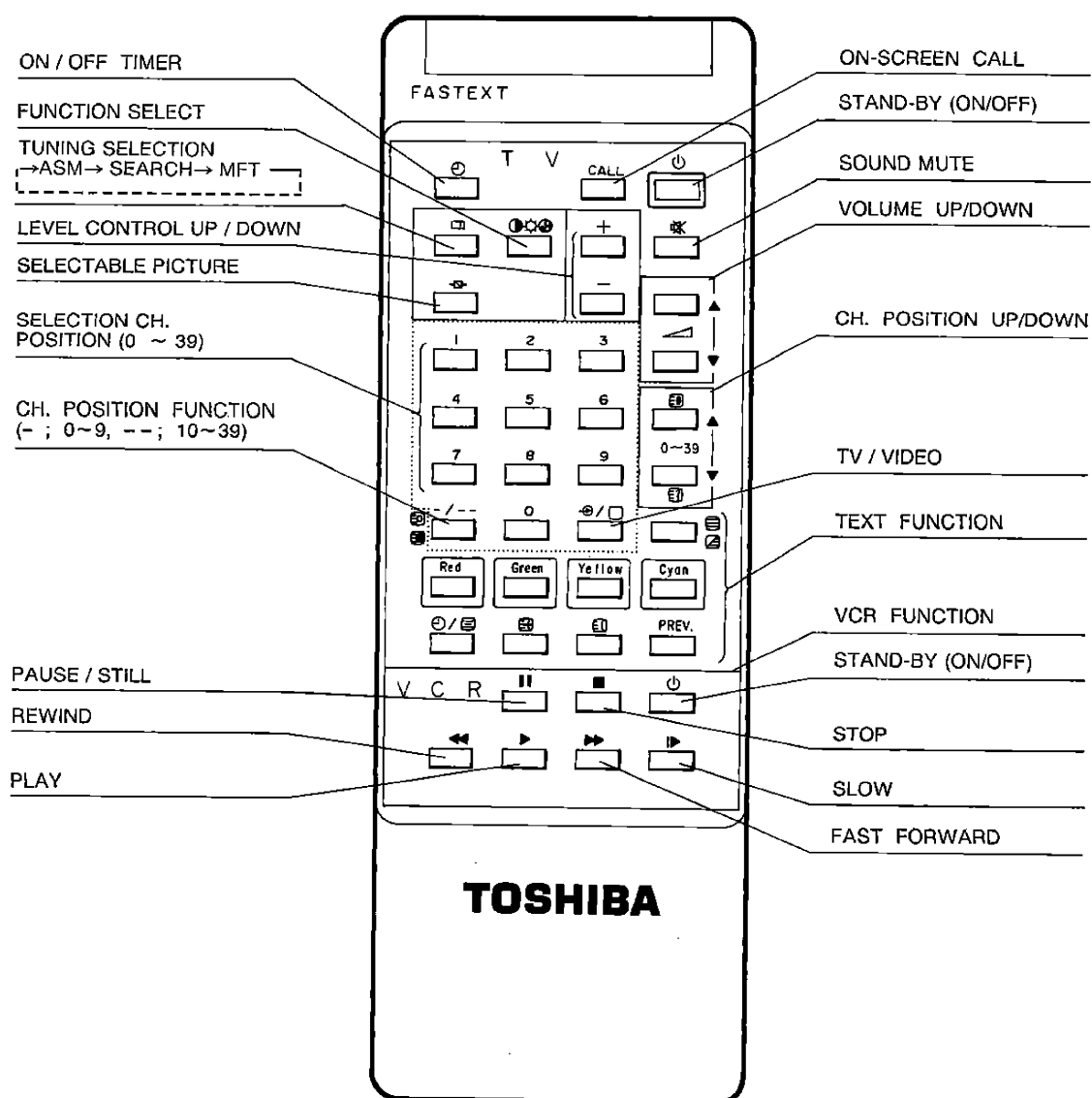
PRODUCT SAFETY NOTICE

Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

FRONT CONTROLS AND REAR VIEWS



REMOTE HAND HELD UNIT



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATION

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials.

Plug the power cord into a convenient 240 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least one hour in order that the automatic degaussing circuit operates properly. Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures.

+ 120 VOLT POWER SUPPLY ADJUSTMENT (R851)

CAUTION: +B voltage closely relates to the high voltage. To prevent hazardous X-RAY RADIATION, the +B voltage must be properly adjusted to +120 volts.

1. Tune in an active channel. Adjust the BRIGHTNESS and CONTRAST Controls for normal picture.
2. Check that the AC power Line voltage is normal. (AC 240 volts, 50 Hz)
3. Connect a digital voltmeter to both leads of C451.
4. Adjust R851 for 120V reading on the meter.
5. Remove the digital voltmeter.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 29.0 kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 29.0 kV under any conditions.

HEIGHT ADJUSTMENT

1. Receive the WG PHILIPS pattern, and set the contrast and colour to minimum, and the brightness to centre.
2. Change the VERT POSITION SW (S301) so the round shape in the pattern is located in the centre of screen.
3. HEIGHT Control (R351) changes the size of the picture or pattern, having an equal effect on the top and bottom. Make final adjustment to overscan the mask 2 cm at top and bottom.

HORIZONTAL CENTRE ADJUSTMENT

1. Receive the WG PHILIPS pattern.
2. Set the contrast and colour to minimum, and the brightness to centre.
3. Adjust H. CENTRE USER Control (R452) to the click (centre) position.
4. Adjust H. CENTRE SUB Control (R451) so the pattern centre can be located at the screen centre.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS.(T461) for well defined scanning lines in the centre area on the screen.

DELAYED R-F AGC ADJUSTMENT

1. Tune the set in the strongest station in your area.
2. Turn AGC DELAY Control (R151) on PIF Board to fully counterclockwise position.
3. Adjust AGC DELAY Control clockwise until noise (snow) disappears on the screen.

PAL MATRIX ADJUSTMENT

1. Tune in the colour programme of the Philips pattern.
2. Set the COLOUR Control to obtain the proper colour.
3. If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
4. At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
5. Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
6. If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

CRT GREY SCALE ADJUSTMENT

1. Tune in an active channel.
2. Turn the SCREEN Control (on T461) fully counterclockwise.
3. Rotate the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) counterclockwise to the minimum.
4. Set the GREEN and BLUE DRIVE Controls (R252, R253) to the mid position.
5. Set the SERVICE SW. (S202) in the H. line position.
6. Short temporarily terminal of RASTER CHIP on the CRT DRIVE Board.
7. Set the CONTRAST, COLOUR Controls to minimum and BRIGHTNESS Control to centre position.
8. Open the terminal of RASTER CHIP on the CRT DRIVE Board.
9. Rotate the SCREEN Control gradually clockwise until the first line appears slightly on the screen. Set the SCREEN Control to this position.
10. Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE).
The lines may look like white if the CUT OFF Controls are adjusted properly.
11. Return the SERVICE SW. (S202) in the receiving position.
12. Set the BRIGHTNESS Control to the maximum and COLOUR Control to the minimum.
13. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balanced picture in high light areas.
14. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

SUB-BRIGHTNESS ADJUSTMENT

1. Tune in a colour programme.
2. Set the CONTRAST Control to the maximum and the BRIGHTNESS Control to the centre.
3. Set the COLOUR Control to the minimum.
4. Set the SUB-BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
6. Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

SIF DET (L651) ADJUSTMENT

1. Connect SIF generator to pin 16 of IC101 through 0.01 μ F capacitor.
2. Connect the oscilloscope to pin 9 of IC101.
3. Set up the SIF generator as described below.
Sound carrier frequency : 6.0 MHz
Modulation frequency : 1000 Hz
Frequency deviation : ± 15 kHz
Signal level : 80 dB μ
(50 ohm load)
4. Adjust L651 for the maximum response of 1000 Hz det-out on scope.

PICTURE I-F SWEEP ALIGNMENT

- GENERAL..... Refer to figure 1 for test equipment connection.
- PRELIMINARY STEPS 1. Disconnect the IF Board from the Main Board.
 2. Supply +12 volts to the IF Board (Pin 1 of P101).
 3. Connect the detector to pin 18 of IC101.
- SWEEP/MARKER GENERATOR..... Connect to the pin 6 of P101 as shown in figure 1 on the IF Board.
 Set to 30 ~ 40 MHz sweep with signal level of 75 ~ 85 dB μ .
- OSCILLOSCOPE..... Connect through the detector probe to the pin 18 of IC101 on the IF Board.

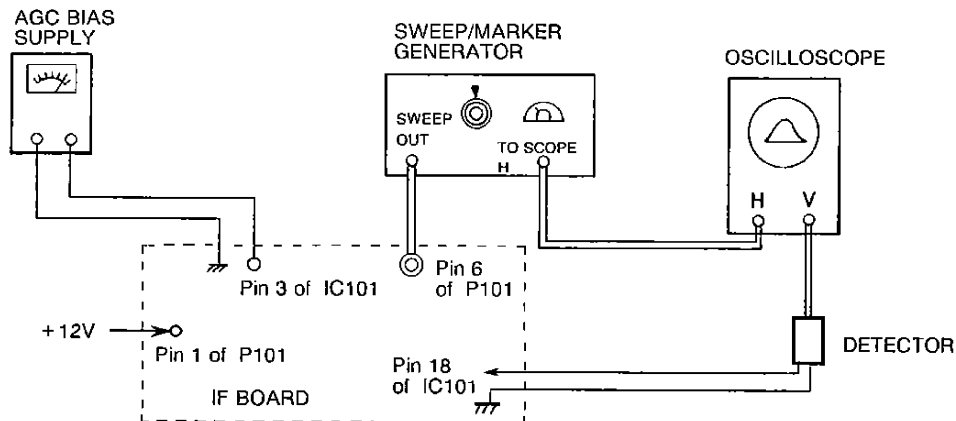


Figure 1. Picture IF Sweep Alignment

STEP	SWEEP/MARGER GENERATOR	ADJUST	REMARKS
Detector Coil	39.5 MHz Marker "ON"	L151	<ul style="list-style-type: none"> Supply +2 to +3 volts to pin 1 of IC101 to set the output level for 0.4 Vp-p on the scope. Adjust L151 so that the marker position (39.5 MHz) on the response can lower to minimum. (See figure 2.)
After completing the above steps, disconnect the equipment and re-solder the links on the Main Board, and adjust the AGC Delay control (R151) following DELAYED RF AGC ADJUSTMENTS.			

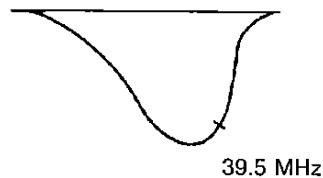


Figure 2. Magnified Response Curve

AFC ALIGNMENT

- GENERAL Refer to figure 3 for test equipment connection.
- PRELIMINARY STEPS 1. Disconnect the IF Board from the Main Board.
 2. Supply +12 volts to the IF Board. (Pin 1 of P101)
 3. Turn AGC DELAY Control (R151) on the IF Board fully clockwise.
- DVM Connect to the resistor R171 (⊙ in figure 3) and ground.

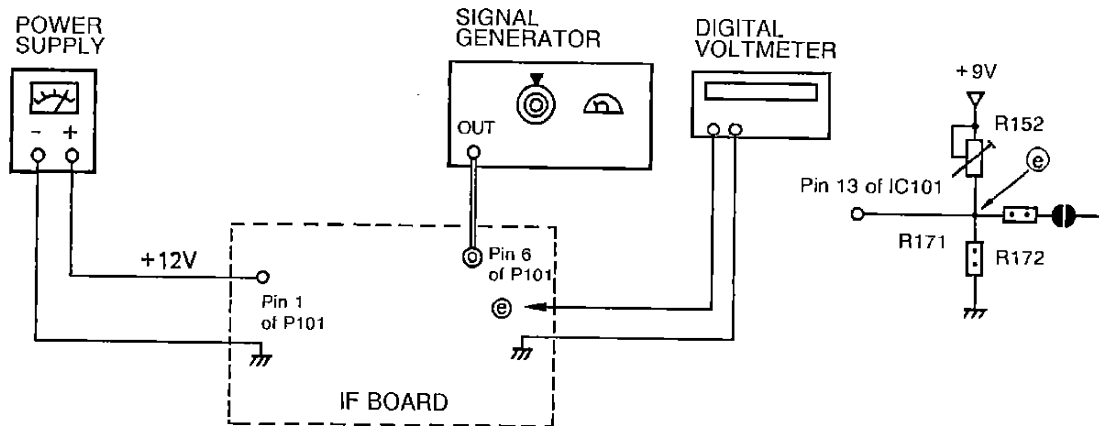


Figure 3. AFC Alignment

STEP	SIGNAL GENERATOR	ADJUST	REMARKS
1. AFC Balance (R152)	NO SIGNAL	R152	<ul style="list-style-type: none"> Short the pin 1 of IC101 to ground. Adjust R152 for 4.5 volts at the point ⊙ in figure 3.
2. AFC Coil (L152)	39.5 MHz CARRIER WAVE (Level : 75 to 85 dBμ)	L152	<ul style="list-style-type: none"> Remove the short of pin 1 of IC101. Connect IF carrier wave to the pin 6 of P101 in figure 3. Adjust L152 for 2.5 volts on the meter at the point ⊙.

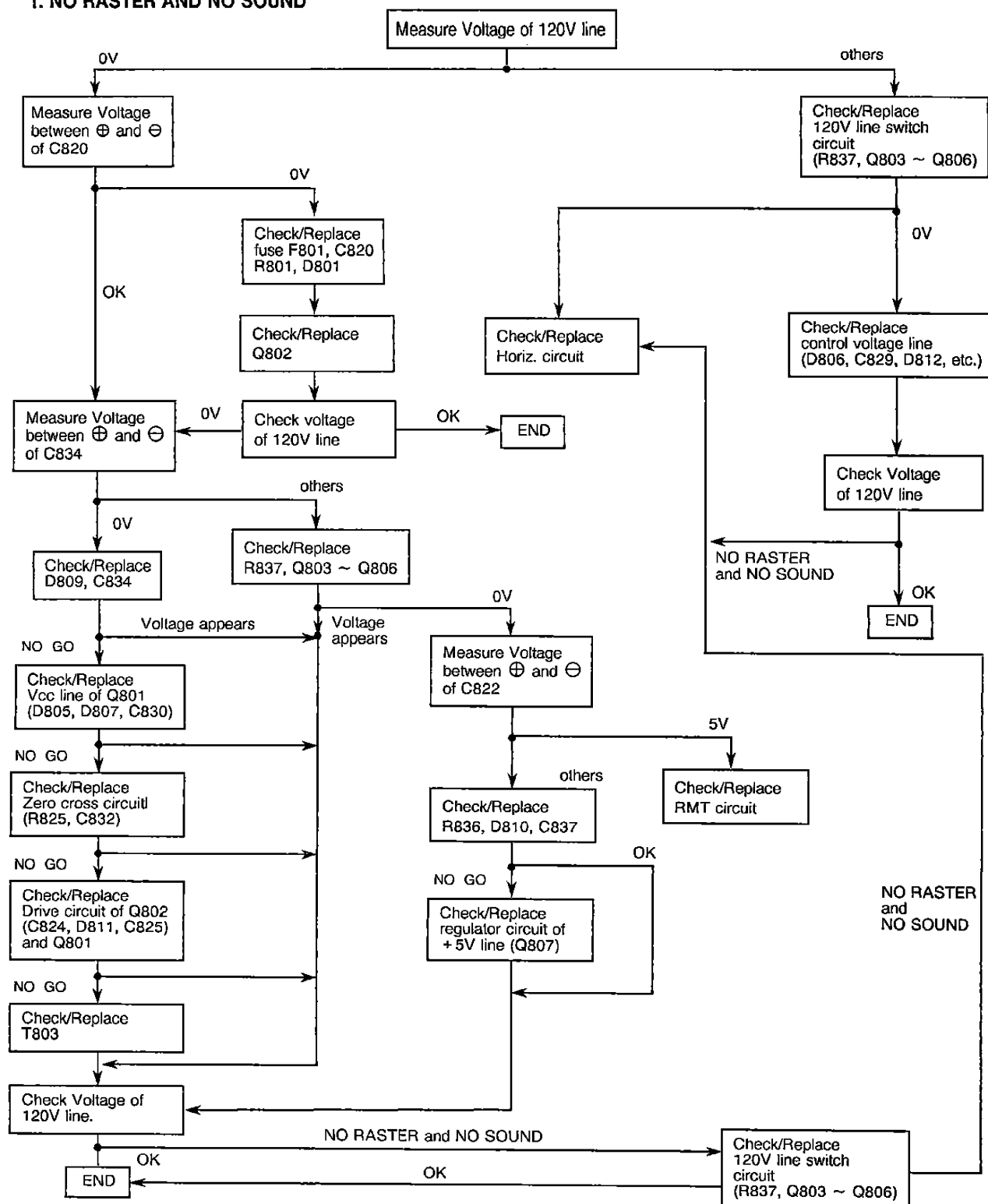
TROUBLESHOOTING CHARTS

The following charts are devoted to troubleshooting which, if followed carefully, will assist you in tracking down a fault to the correct stage.

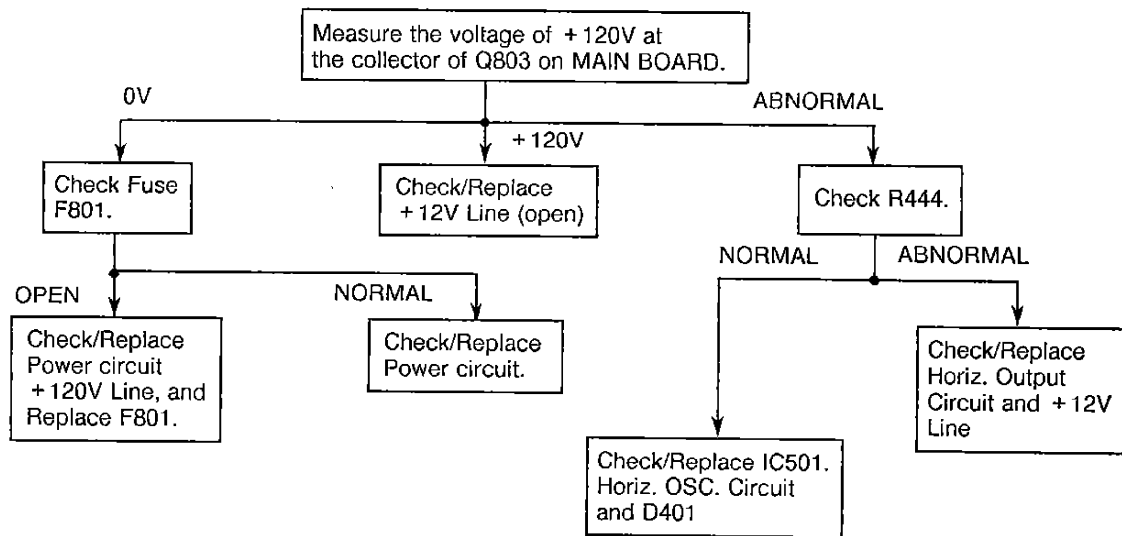
In order to utilize the charts (fault trees), firstly establish the complaint, i.e. – No Raster, No Sound.

Locate the chart applicable and then progress through the various alternatives until a final block indicates the offending components or stage.

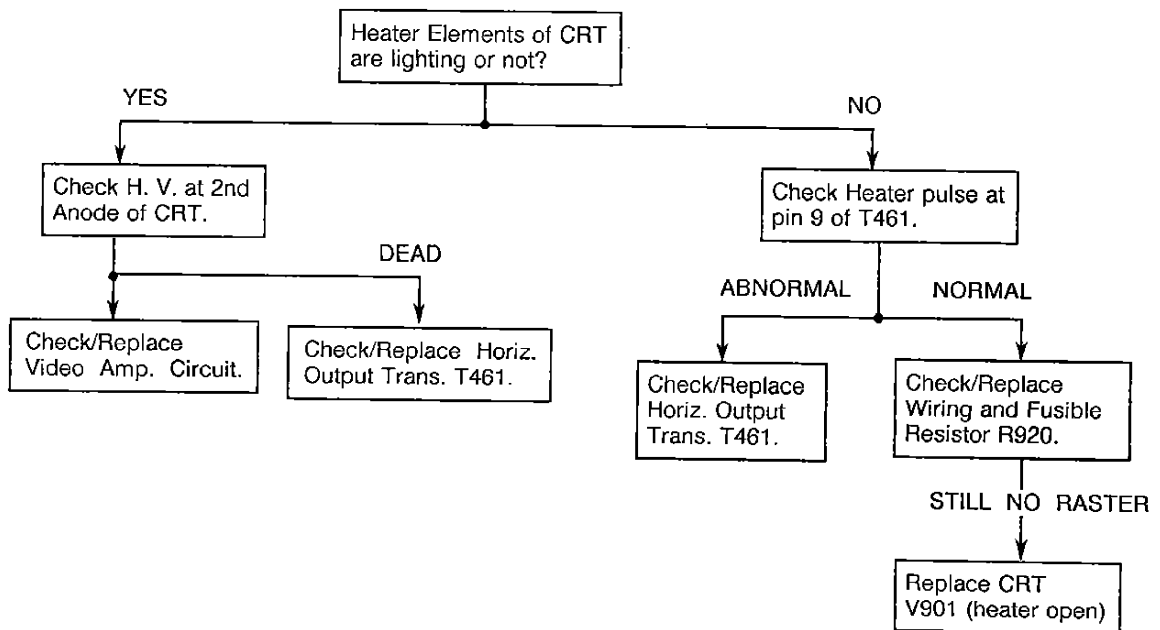
1. NO RASTER AND NO SOUND



2. NO RASTER (NOISE OR WEAK SOUND)

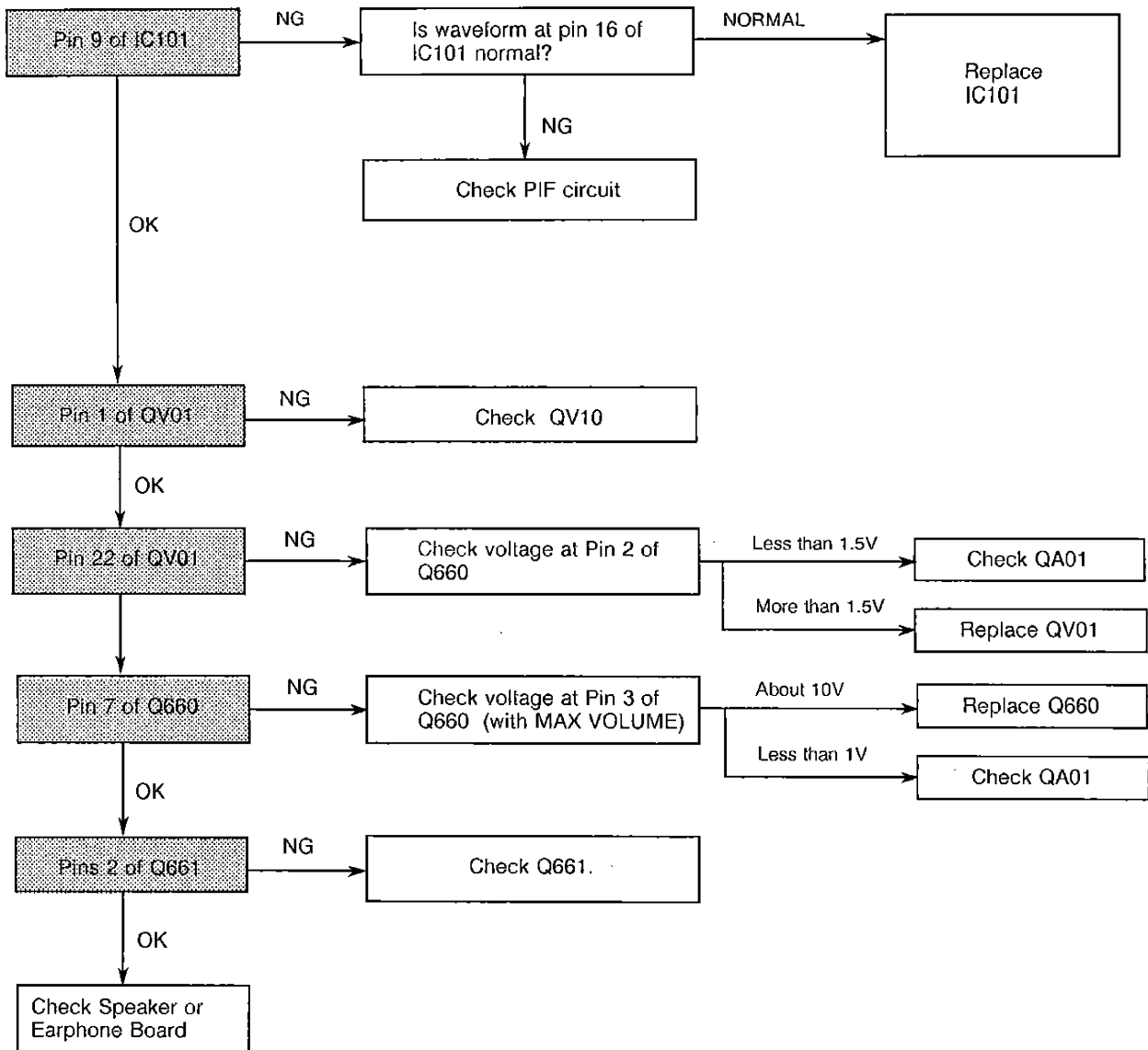


3. NO RASTER (SOUND OK)



4. NO SOUND

Note: Check the sound signal waveform for shaded area below.



5. NO PICTURE

Check video signal waveform for shaded area below.

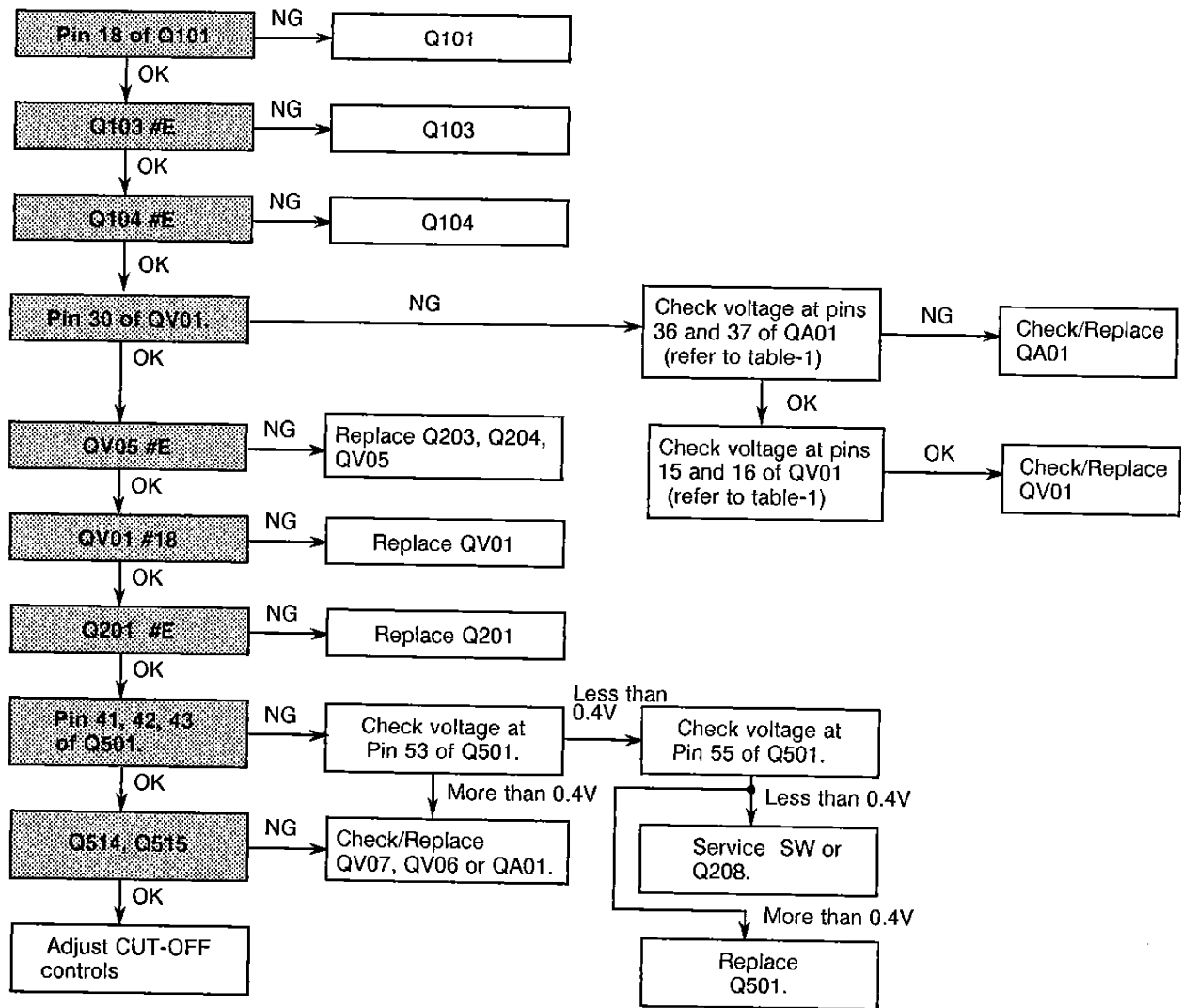


Table-1 (AV SW. LOGIC)

MODE	QA01		QV01	
	Pin 36	Pin 37	Pin 15	Pin 16
TV	*H	*H	*H	*H
VIDEO-1	H	L	H	L
VIDEO-2	L	L	L	L
VIDEO-2S	L	H	L	L

L : Less than 2.5V
H : More than 2.5V

Note: * marks denote as follows.

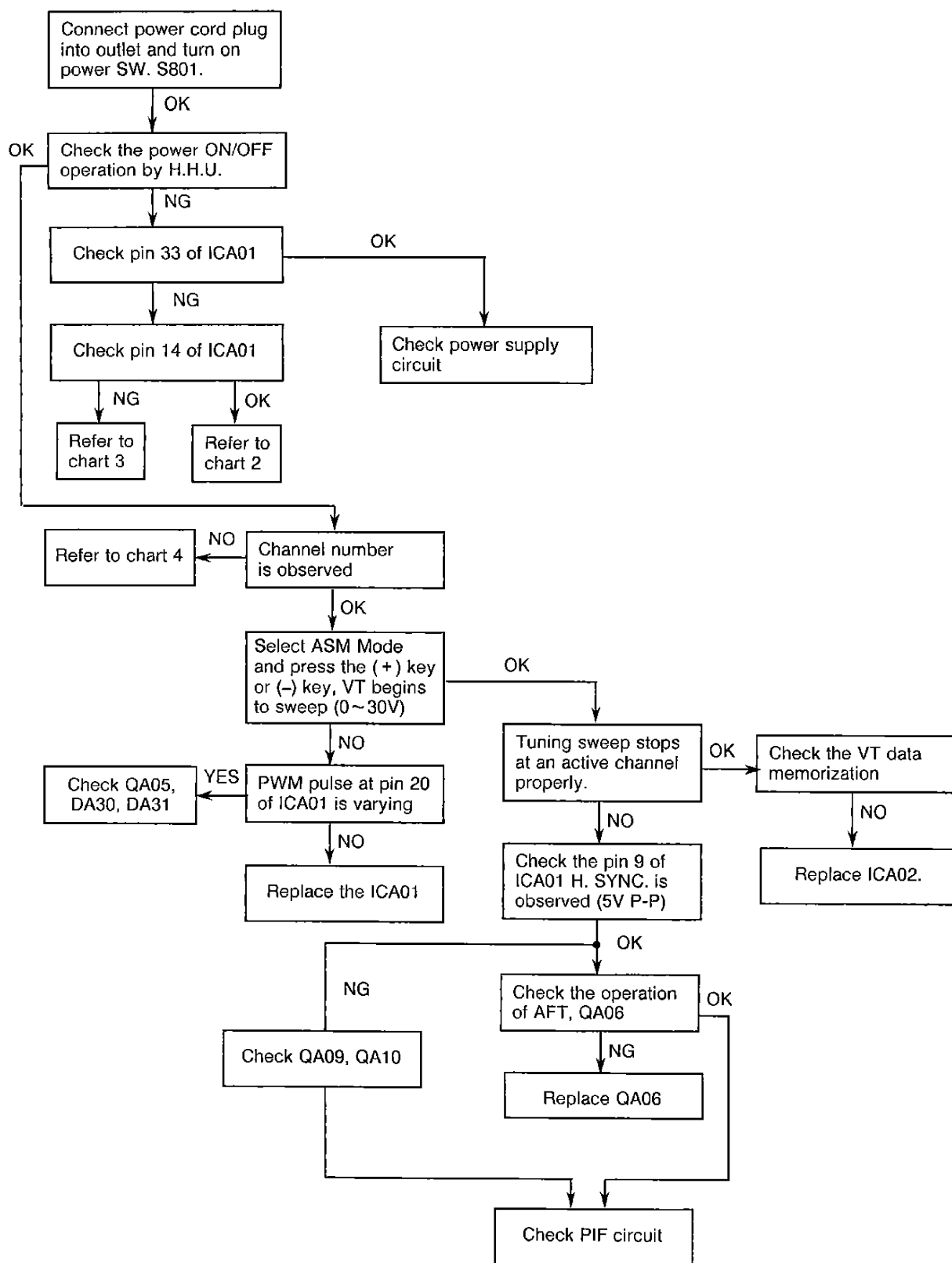
AV SW LOGIC is same as VIDEO-1 mode when pin 8 of 21 PIN-1 is high level.

AV SW LOGIC is same as VIDEO-2 mode when pin 8 of 21 PIN-2 is high level.

AV SW LOGIC is same as VIDEO-1 mode when pin 8 of 21 PIN-1 and 21 PIN-2 are high level.

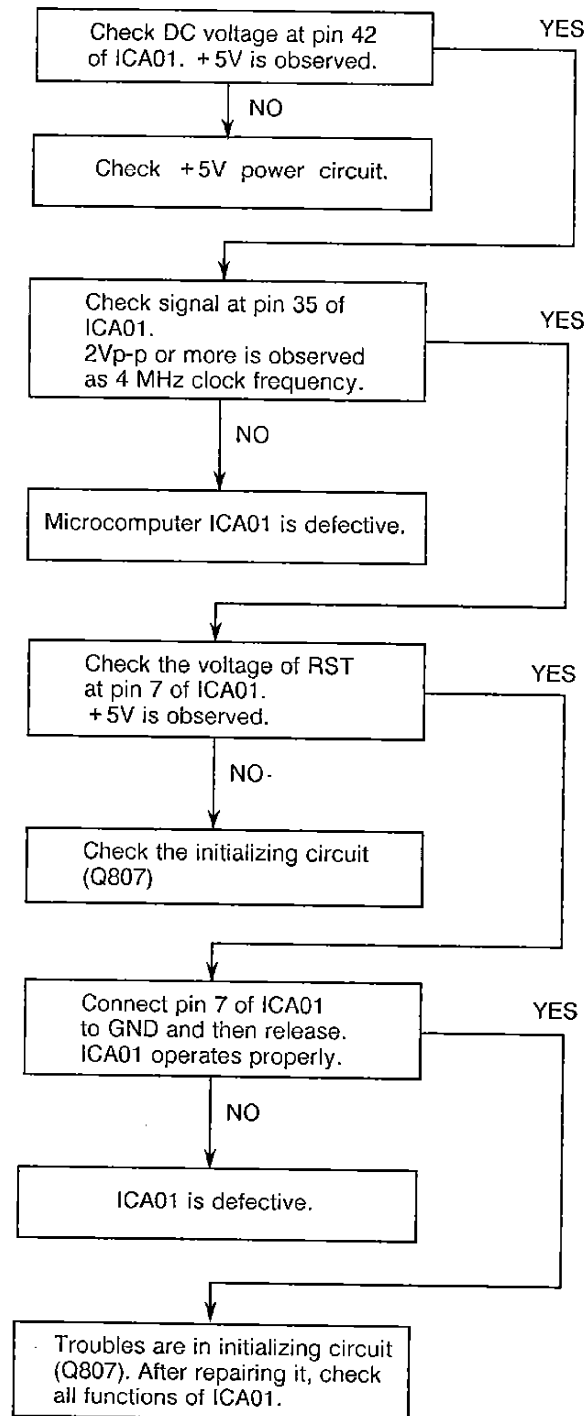
6. CHANNEL SELECTOR TROUBLE

[CHART 1]



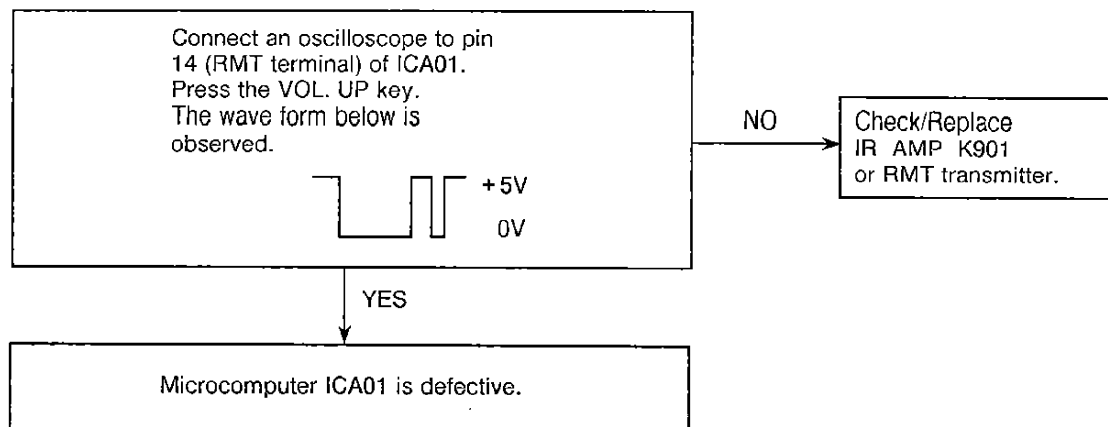
[CHART 2] Microcomputer (ICA01) Operation Check

NOTE: Before checking Microcomputer, check that control buttons and their connection work properly.

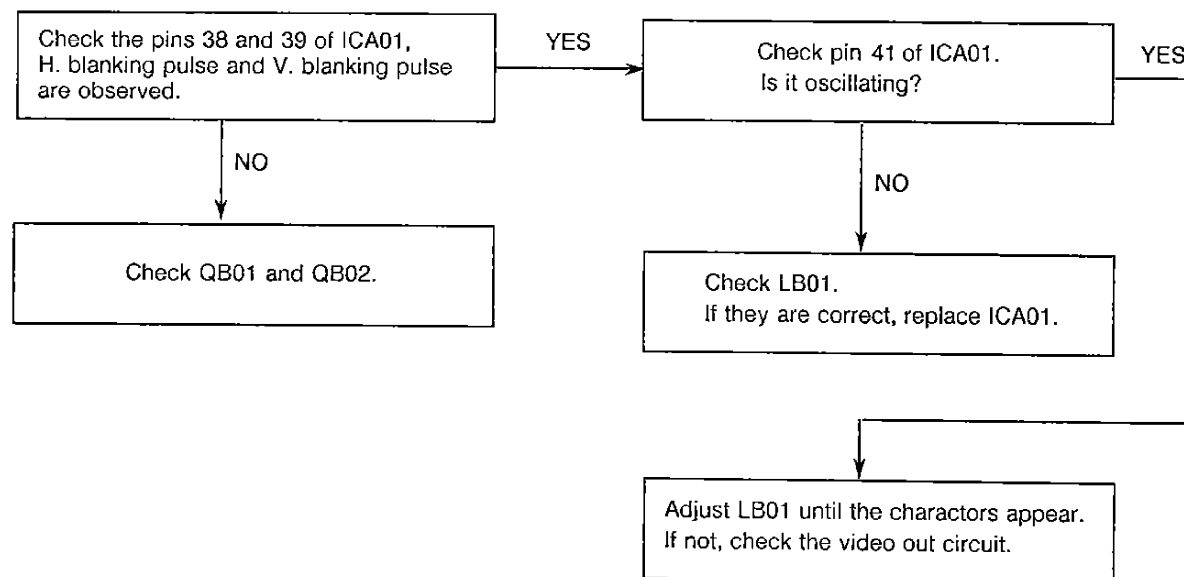


[CHART 3] Remote Control Operation Check

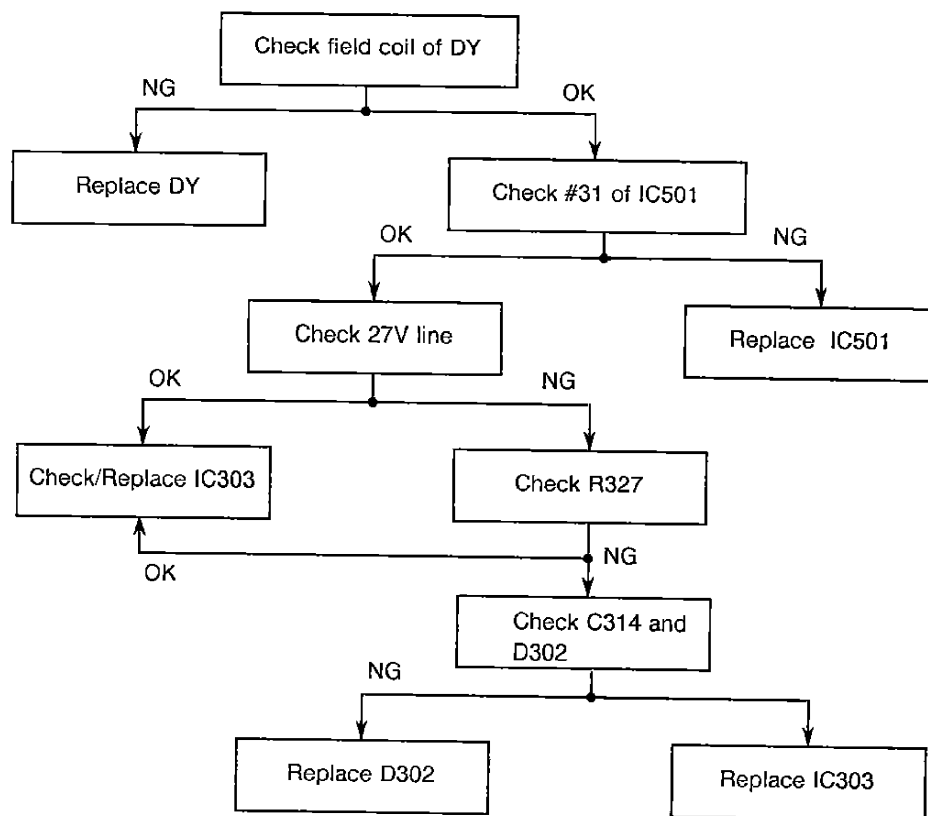
Note : Before checking RMT operation, check that key operation on TV set is proper.



[CHART 4] On Screen Display Operation Check



7. NO VERT. SCAN (ONE HORIZ. LINE RASTER)



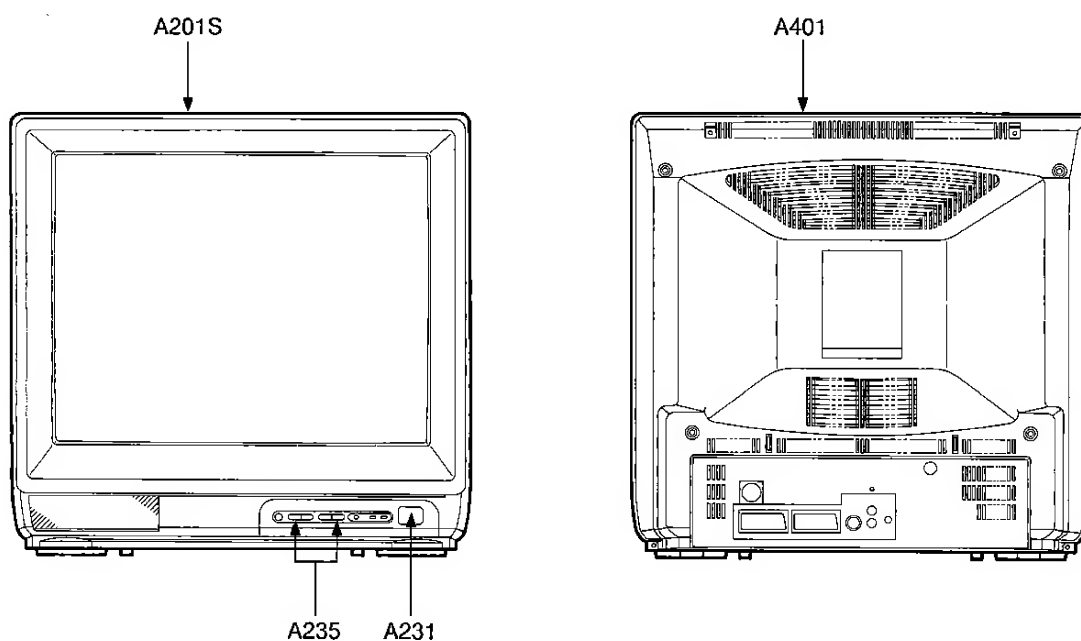
8. OUT OF VERT. SYNC. AND HORIZ. SYNC.

Check/Replace Sync Circuit pin 33 of IC501.

9. OUT OF HORIZ. SYNC.

Check/Replace Horiz. OSC Circuit and Horiz. AFC Circuit connected to Pins 36, 37 and 38 of IC501. Check/Replace IC501.

CABINET REPLACEMENT PARTS LIST



Location No.	Part No.	Description
A201S	23418571	Front Cover
A231	23443465	Button, POWER
A235	23443466	Button, UP-DOWN
A401	23423519	Back Cover
A411	23998604	Label, Model No., B/C
A420	23838432	Ornament, Trim
A421	23838433	Ornament, Tuner
A701	23523662	Carton Box
A702	23934241	Packing, Bottom
A703	23934242	Packing, Top
A710	23998605	Label, Model No., Carton
Y101	23994859	Owner's Manual



CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

ABBREVIATIONS:

Capacitors..... CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors..... CF : Carbon Film CC : Carbon Composition MF : Metal Film
 OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor
(All CD and PF capacitors are $\pm 5\%$, 50V and all resistors, $\pm 5\%$, 1/6W unless otherwise noted.)

Location No.	Part No.	Description	Location No.	Part No.	Description
CAPACITORS			C316	24667332	EL, 3300 μ F, $\pm 20\%$, 25V
C101	24212102	CD, 1000pF, $\pm 10\%$	C317	24617912	EL, 2.2 μ F, $\pm 10\%$, 50V
C102	24232103	CD, 0.01 μ F, +80%, -20%	C318	24082049	PF, 0.047 μ F, 100V
C103	24232103	CD, 0.01 μ F, +80%, -20%	C319	24693104	PF, 0.1 μ F, 100V
C104	24206228	EL, 0.22 μ F, 50V	C321	24214561	CD, 560pF, $\pm 10\%$, 500V
C105	24232103	CD, 0.01 μ F, +80%, -20%	C328	24212272	CD, 2700pF, $\pm 10\%$
C107	24212102	CD, 1000pF, $\pm 10\%$	C368	24530104	PF, 0.1 μ F, $\pm 10\%$, 63V
C108	24085031	EL, 1 μ F, $\pm 20\%$, 25V, Non-Polar	C402	24353241	CD, 240pF
C109	24633101	EL, 100 μ F, 16V	C403	24636339	EL, 3.3 μ F, 50V
C111	24633470	EL, 47 μ F, 16V	C405	24593203	PF, 0.02 μ F
C112	24232103	CD, 0.01 μ F, +80%, -20%	C406	24593203	PF, 0.02 μ F
C162	24232103	CD, 0.01 μ F, +80%, -20%	C407	24593243	PF, 0.024 μ F
C163	24212102	CD, 1000pF, $\pm 10\%$	C408	24636100	EL, 10 μ F, 50V
C164	24212102	CD, 1000pF, $\pm 10\%$	C409	24232103	CD, 0.01 μ F, +80%, -20%
C165	24212102	CD, 1000pF, $\pm 10\%$	C412	24550182	PF, 1800pF, 63V
C167	24212102	CD, 1000pF, $\pm 10\%$	C413	24550182	PF, 1800pF, 63V
C171	24436220	CD, 22pF	C414	24212471	CD, 470pF, $\pm 10\%$
C172	24212102	CD, 1000pF, $\pm 10\%$	C416	24214271	CD, 270pF, $\pm 10\%$, 500V
C201	24636100	EL, 10 μ F, 50V	△ C440	24095916	PF, 9100pF, 1600V
C202	24795101	EL, 100 μ F, 25V	C441	24214221	CD, 220pF, $\pm 10\%$, 500V
C203	24232103	CD, 0.01 μ F, +80%, -20%	C443	24214221	CD, 220pF, $\pm 10\%$, 500V
C204	24797220	EL, 22 μ F, 50V	C445	24095903	PF, 0.056 μ F, $\pm 10\%$, 250V
C205	24636478	EL, 0.47 μ F, 50V	C447	24644479	EL, 4.7 μ F, 250V
C208	24212102	CD, 1000pF, $\pm 10\%$	C448	24795102	EL, 1000 μ F, 25V
C209	24232103	CD, 0.01 μ F, +80%, -20%	C449	24794471	EL, 470 μ F, 16V
C210	24636100	EL, 10 μ F, 50V	C451	24640908	EL, 33 μ F, $\pm 20\%$, 160V
C211	24212561	CD, 560pF, $\pm 10\%$	△ C463	24212222	CD, 2200pF, $\pm 10\%$
C212	24636010	EL, 1 μ F, 50V	C465	24095755	PF, 0.47 μ F, 200V
C213	24550104	PF, 0.1 μ F, 63V	C502	24636100	EL, 10 μ F, 50V
C214	24633101	EL, 100 μ F, 16V	C503	24436101	CD, 100pF
C240	24530474	PF, 0.47 μ F, $\pm 10\%$, 63V	C504	24436101	CD, 100pF
C301	24636229	EL, 2.2 μ F, 50V	C505	24550273	PF, 0.027 μ F, 63V
C302	24212152	CD, 1500pF, $\pm 10\%$	C506	24232103	CD, 0.01 μ F, +80%, -20%
C303	24617912	EL, 2.2 μ F, $\pm 10\%$, 50V	C507	24530103	PF, 0.01 μ F, $\pm 10\%$, 63V
C304	24212102	CD, 1000pF, $\pm 10\%$	C508	24085028	EL, 2.2 μ F, 25V, Non-Polar
C307	24232103	CD, 0.01 μ F, +80%, -20%	C509	24797220	EL, 22 μ F, 50V
C312	24593243	PF, 0.024 μ F	C510	24232103	CD, 0.01 μ F, +80%, -20%
C313	24755101	EL, 100 μ F, 35V	C511	24232103	CD, 0.01 μ F, +80%, -20%
C314	24796102	EL, 1000 μ F, 35V	C512	24353200	CD, 20pF
C315	24214221	CD, 220pF, $\pm 10\%$, 500V	C513	24353330	CD, 33pF
			C515	24636220	EL, 22 μ F, 50V

Location No.	Part No.	Description
C516	24530104	PF, 0.1 μ F, \pm 10%, 63V
C517	24530104	PF, 0.1 μ F, \pm 10%, 63V
C518	24232103	CD, 0.01 μ F, +80%, -20%
C519	24232103	CD, 0.01 μ F, +80%, -20%
C520	24636478	EL, 0.47 μ F, 50V
C521	24530474	PF, 0.47 μ F, \pm 10%, 63V
C522	24530474	PF, 0.47 μ F, \pm 10%, 63V
C523	24530474	PF, 0.47 μ F, \pm 10%, 63V
C524	24232103	CD, 0.01 μ F, +80%, -20%
C525	24436820	CD, 82pF
C526	24436820	CD, 82pF
C527	24436820	CD, 82pF
C528	24232103	CD, 0.01 μ F, +80%, -20%
C530	24796220	EL, 22 μ F, 35V
C532	24436330	CD, 33pF
C533	24436330	CD, 33pF
C534	24436240	CD, 24pF
C535	24636100	EL, 10 μ F, 50V
C536	24636478	EL, 0.47 μ F, 50V
C537	24794101	EL, 100 μ F, 16V
C539	24232103	CD, 0.01 μ F, +80%, -20%
C540	24633100	EL, 10 μ F, 16V
C601	24436470	CD, 47pF
C602	24436470	CD, 47pF
C603	24232103	CD, 0.01 μ F, +80%, -20%
C604	24212272	CD, 2700pF, \pm 10%
C605	24232103	CD, 0.01 μ F, +80%, -20%
C606	24353470	CD, 47pF
C610	24232103	CD, 0.01 μ F, +80%, -20%
C611	24232103	CD, 0.01 μ F, +80%, -20%
C660	24085031	EL, 1 μ F, \pm 20%, 25V, Non-Polar
C661	24636100	EL, 10 μ F, 50V
C662	24636100	EL, 10 μ F, 50V
C663	24797470	EL, 47 μ F, 50V
C664	24636010	EL, 1 μ F, 50V
C665	24796221	EL, 220 μ F, 35V
C666	24550104	PF, 0.1 μ F, 63V
C667	24795471	EL, 470 μ F, 25V
C668	24636478	EL, 0.47 μ F, 50V
C669	24550682	PF, 6800pF, 63V
C670	24634220	EL, 22 μ F, 25V
C697	24550224	PF, 0.22 μ F, 63V
C698	24636479	EL, 4.7 μ F, 50V
C699	24634470	EL, 47 μ F, 25V
C801	24098999	PF, 0.1 μ F, \pm 20%, AC250V
C802	24098999	PF, 0.1 μ F, \pm 20%, AC250V
C805	24094656	CD, 2200pF, \pm 20%, AC400V
C806	24094656	CD, 2200pF, \pm 20%, AC400V
C815	24092281	CD, 4700pF, \pm 20%, AC250V
C816	24092281	CD, 4700pF, \pm 20%, AC250V
C817	24092281	CD, 4700pF, \pm 20%, AC250V
C818	24092281	CD, 4700pF, \pm 20%, AC250V
C820	24086871	EL, 120 μ F, \pm 20%, 400V
C821	24436101	CD, 100pF
C822	24636100	EL, 10 μ F, 50V
C823	24550682	PF, 6800pF, 63V
C824	24630747	EL, 22 μ F, \pm 20%, 25V
C825	24212102	CD, 1000pF, \pm 10%
C826	24442331	CD, 330pF, \pm 10%, 2kV
C827	24232103	CD, 0.01 μ F, +80%, -20%
C828	24095914	PF, 2200pF, \pm 3%, 1600V
C829	24636010	EL, 1 μ F, 50V
C830	24797101	EL, 100 μ F, 50V

Location No.	Part No.	Description
C831	24436331	CD, 330pF
C832	24593822	PF, 8200pF
C833	24442181	CD, 180pF, \pm 10%, 2kV
C834	24086953	EL, 220 μ F, \pm 20%, 160V
C835	24797220	EL, 22 μ F, 50V
C836	24214331	CD, 330pF, \pm 10%, 500V
C837	24795222	EL, 2200 μ F, 25V
C901	24644479	EL, 4.7 μ F, 250V
C902	24095923	PF, 4700pF, 1600V
CA01	24212331	CD, 330pF, \pm 10%
CA02	24232103	CD, 0.01 μ F, +80%, -20%
CA07	24212102	CD, 1000pF, \pm 10%
CA08	24232103	CD, 0.01 μ F, +80%, -20%
CA09	24794470	EL, 47 μ F, 16V
CA10	24232103	CD, 0.01 μ F, +80%, -20%
CA11	24530472	PF, 4700pF, \pm 10%, 63V
CA12	24212561	CD, 560pF, \pm 10%
CA13	24633100	EL, 10 μ F, 16V
CA14	24794470	EL, 47 μ F, 16V
CA15	24232103	CD, 0.01 μ F, +80%, -20%
CA16	24232103	CD, 0.01 μ F, +80%, -20%
CA17	24232103	CD, 0.01 μ F, +80%, -20%
CA18	24232103	CD, 0.01 μ F, +80%, -20%
CA19	24232103	CD, 0.01 μ F, +80%, -20%
CA20	24636010	EL, 1 μ F, 50V
CA21	24436391	CD, 390pF
CA22	24436221	CD, 220pF
CA23	24530104	PF, 0.1 μ F, \pm 10%, 63V
CA24	24530104	PF, 0.1 μ F, \pm 10%, 63V
CA25	24636229	EL, 2.2 μ F, 50V
CA26	24232103	CD, 0.01 μ F, +80%, -20%
CA28	24530104	PF, 0.1 μ F, \pm 10%, 63V
CA30	24636229	EL, 2.2 μ F, 50V
CA31	24232103	CD, 0.01 μ F, +80%, -20%
CA32	24794471	EL, 470 μ F, 16V
CA33	24232103	CD, 0.01 μ F, +80%, -20%
CA36	24550104	PF, 0.1 μ F, 63V
CA40	24232103	CD, 0.01 μ F, +80%, -20%
CB01	24212101	CD, 100pF, \pm 10%
CF01	24232103	CD, 0.01 μ F, +80%, -20%
CF02	24436271	CD, 270pF
CF03	24436271	CD, 270pF
CF04	24212222	CD, 2200pF, \pm 10%
CF05	24436471	CD, 470pF
CF06	24633220	EL, 22 μ F, 16V
CF07	24353050	CD, 5pF, \pm 0.25pF
CF09	24353360	CD, 36pF
CF10	24530102	PF, 1000pF, \pm 10%, 63V
CF11	24353470	CD, 47pF
CF12	24232103	CD, 0.01 μ F, +80%, -20%
CF13	24636010	EL, 1 μ F, 50V
CF14	24530104	PF, 0.1 μ F, \pm 10%, 63V
CF15	24530222	PF, 2200pF, \pm 10%, 63V
CF17	24353271	CD, 270pF
CF18	24353820	CD, 82pF
CF19	24232103	CD, 0.01 μ F, +80%, -20%
CF20	24633100	EL, 10 μ F, 16V
CF21	24530332	PF, 3300pF, \pm 10%, 63V
CF22	24530332	PF, 3300pF, \pm 10%, 63V
CF23	24633100	EL, 10 μ F, 16V
CF82	24633470	EL, 47 μ F, 16V
CH01	24636010	EL, 1 μ F, 50V
CH02	24636010	EL, 1 μ F, 50V
CH03	24636010	EL, 1 μ F, 50V

Location No.	Part No.	Description
CH04	24636010	EL, 1 μ F, 50V
CH05	24636010	EL, 1 μ F, 50V
CH06	24636010	EL, 1 μ F, 50V
CH07	24636100	EL, 10 μ F, 50V
CM05	24232103	CD, 0.01 μ F, +80%, -20%
CM07	24232103	CD, 0.01 μ F, +80%, -20%
CM08	24232103	CD, 0.01 μ F, +80%, -20%
CN02	24436270	CD, 27pF
CN07	24436270	CD, 27pF
CN10	24436101	CD, 100pF
CV01	24636229	EL, 2.2 μ F, 50V
CV03	24636100	EL, 10 μ F, 50V
CV04	24636229	EL, 2.2 μ F, 50V
CV06	24636100	EL, 10 μ F, 50V
CV07	24636100	EL, 10 μ F, 50V
CV08	24636229	EL, 2.2 μ F, 50V
CV10	24636100	EL, 10 μ F, 50V
CV11	24636229	EL, 2.2 μ F, 50V
CV13	24636100	EL, 10 μ F, 50V
CV15	24636010	EL, 1 μ F, 50V
CV16	24232103	CD, 0.01 μ F, +80%, -20%
CV17	24232103	CD, 0.01 μ F, +80%, -20%
CV18	24633100	EL, 10 μ F, 16V
CV22	24633100	EL, 10 μ F, 16V
CV24	24633471	EL, 470 μ F, 16V
CV27	24633100	EL, 10 μ F, 16V
CV29	24085028	EL, 2.2 μ F, 25V, Non-Polar
CV31	24633471	EL, 470 μ F, 16V
CX02	24530474	PF, 0.47 μ F, \pm 10%, 63V
CX03	24530474	PF, 0.47 μ F, \pm 10%, 63V
CX04	24530474	PF, 0.47 μ F, \pm 10%, 63V
RESISTORS		
R101	24366152	CF, 1500 ohm
R103	24366152	CF, 1500 ohm
R104	24366103	CF, 10k ohm
R105	24366104	CF, 100k ohm
R106	24366562	CF, 5600 ohm
R107	24366562	CF, 5600 ohm
R108	24366222	CF, 2200 ohm
R109	24366332	CF, 3300 ohm
R110	24366103	CF, 10k ohm
△ R113	24383560	OMF, 56 ohm, 2W
R115	24366101	CF, 100 ohm
R116	24366102	CF, 1k ohm
R117	24366221	CF, 220 ohm
R118	24552151	OMF, 150 ohm, 1/2W
R125	24366101	CF, 100 ohm
R151	24066953	VR, 5k ohm, 1/10W
R152	24066946	VR, 1M ohm, 1/10W
R161	24366131	CF, 130 ohm
R162	24366102	CF, 1k ohm
R163	24366562	CF, 5600 ohm
R164	24552101	OMF, 100 ohm, 1/2W
R166	24366270	CF, 27 ohm
R167	24366680	CF, 68 ohm
R168	24366562	CF, 5600 ohm
R171	24366102	CF, 1k ohm
R172	24366184	CF, 180k ohm
R202	24366101	CF, 100 ohm
R203	24366182	CF, 1800 ohm
R204	24366152	CF, 1500 ohm
R205	24366392	CF, 3900 ohm
R208	24366101	CF, 100 ohm

Location No.	Part No.	Description
R209	24366103	CF, 10k ohm
R210	24366203	CF, 20k ohm
R211	24366622	CF, 6200 ohm
R212	24366103	CF, 10k ohm
R213	24366101	CF, 100 ohm
R214	24366182	CF, 1800 ohm
R215	24366152	CF, 1500 ohm
R216	24366333	CF, 33k ohm
R217	24366101	CF, 100 ohm
R218	24366472	CF, 4700 ohm
R219	24366472	CF, 4700 ohm
R220	24366753	CF, 75k ohm
R221	24366564	CF, 560k ohm
R222	24366751	CF, 750 ohm
R223	24366103	CF, 10k ohm
R224	24366333	CF, 33k ohm
R225	24366132	CF, 1300 ohm
R226	24366104	CF, 100k ohm
R227	24366105	CF, 1M ohm
R228	24366104	CF, 100k ohm
R229	24366303	CF, 30k ohm
R230	24366102	CF, 1k ohm
R231	24366103	CF, 10k ohm
R232	24366473	CF, 47k ohm
R233	24366302	CF, 3000 ohm
R234	24366102	CF, 1000 ohm
R235	24366473	CF, 47k ohm
R236	24366103	CF, 10k ohm
R237	24366224	CF, 220k ohm
R241	24366101	CF, 100 ohm
R242	24366153	CF, 15k ohm
R243	24366183	CF, 18k ohm
R252	24066598	VR, 2k ohm, 1/10W
R253	24066598	VR, 2k ohm, 1/10W
R255	24066601	VR, 20k ohm, 1/10W
R301	24366301	CF, 300 ohm
R302	24366244	CF, 240k ohm
R303	24366203	CF, 20k ohm
R304	24366102	CF, 1k ohm
R305	24366161	CF, 160 ohm
R306	24366471	CF, 470 ohm
R309	24366102	CF, 1k ohm
R311	24552242	OMF, 2400 ohm, 1/2W
R316	24552821	OMF, 820 ohm, 1/2W
R317	24383271	OMF, 270 ohm, 2W
R318	24366153	CF, 15k ohm
R319	24381392	OMF, 3900 ohm, 1/2W
R320	24366103	CF, 10k ohm
R321	24366133	CF, 13k ohm
R322	24366364	CF, 360k ohm
R323	24322129	OMF, 1.2 ohm, 1W
R325	24552122	OMF, 1200 ohm, 1/2W
△ R327	24547689	FR, 6.8 ohm, 1W
R329	24552472	OMF, 4700 ohm, 1/2W
R333	24366471	CF, 470 ohm
R351	24066602	VR, 50k ohm, 1/10W
R377	24366184	CF, 180k ohm
R378	24366364	CF, 360k ohm
R380	24366153	CF, 15k ohm
R402	24366273	CF, 27k ohm
R403	24366302	CF, 3k ohm
R404	24552432	OMF, 4300 ohm, 1/2W
R405	24366511	CF, 510 ohm
R407	24366161	CF, 160 ohm

Location No.	Part No.	Description
R408	24366682	CF, 6800 ohm
R411	24366391	CF, 390 ohm
R412	24366121	CF, 120 ohm
△ R416	24007566	Cement, 2k ohm, 5W
R419	24366510	CF, 51 ohm
R420	24009951	OMF, 1k ohm, 1W
R421	24366105	CF, 1M ohm
R440	24376243	CF, 24k ohm, 1/2W
R441	24552103	OMF, 10k ohm, 1/2W
R442	24383102	OMF, 1k ohm, 2W
△ R444	24007768	Cement, 15 ohm, 10W
R445	24552330	OMF, 33 ohm, 1/2W
R448	24984279	MF, 2.7 ohm, 2W
R451	24066601	VR, 20k ohm, 1/10W
R452	24069547	VR, 5k ohm, 0.08W
R501	24366821	CF, 820 ohm
R502	24366334	CF, 330k ohm
R503	24366202	CF, 2k ohm
R504	24366471	CF, 470 ohm
R505	24366822	CF, 8200 ohm
R507	24366822	CF, 8200 ohm
R508	24366821	CF, 820 ohm
R509	24366203	CF, 20k ohm
R510	24366101	CF, 100 ohm
R511	24366562	CF, 5600 ohm
R512	24366152	CF, 1500 ohm
R513	24366152	CF, 1500 ohm
R515	24366221	CF, 220 ohm
R516	24366221	CF, 220 ohm
R517	24366221	CF, 220 ohm
R521	24366562	CF, 5600 ohm
R522	24360185	CF, 1.8M ohm, 1/8W
R523	24366102	CF, 1k ohm
R524	24366103	CF, 10k ohm
R525	24366103	CF, 10k ohm
R526	24366122	CF, 1200 ohm
R527	24366122	CF, 1200 ohm
△ R529	24007642	Cement, 5600 ohm, 5W
R531	24366102	CF, 1k ohm
R532	24366242	CF, 2400 ohm
R533	24366132	CF, 1300 ohm
R534	24376104	CF, 100k ohm, 1/2W
R535	24366302	CF, 3k ohm
R536	24376104	CF, 100k ohm, 1/2W
R537	24366132	CF, 1300 ohm
R538	24366302	CF, 3k ohm
R539	24366132	CF, 1300 ohm
R540	24376104	CF, 100k ohm, 1/2W
R541	24366821	CF, 820 ohm
R542	24366271	CF, 270 ohm
R543	24366512	CF, 5100 ohm
R544	24366101	CF, 100 ohm
R545	24366101	CF, 100 ohm
R547	24366471	CF, 470 ohm
R548	24366471	CF, 470 ohm
R549	24366471	CF, 470 ohm
R551	24066955	VR, 1k ohm, 1/10W
R557	24066598	VR, 2k ohm, 1/10W
R558	24066598	VR, 2k ohm, 1/10W
R559	24066598	VR, 2k ohm, 1/10W
R564	24366101	CF, 100 ohm
R565	24366101	CF, 100 ohm
R567	24366101	CF, 100 ohm
R570	24366103	CF, 10k ohm

Location No.	Part No.	Description
R571	24366103	CF, 10k ohm
R572	24366103	CF, 10k ohm
R573	24366104	CF, 100k ohm
R591	24009957	OMF, 10k ohm, 2W
R592	24009957	OMF, 10k ohm, 2W
R593	24009957	OMF, 10k ohm, 2W
R601	24366681	CF, 680 ohm
R610	24366124	CF, 120k ohm
R611	24366103	CF, 10k ohm
R618	24366101	CF, 100 ohm
R619	24366222	CF, 2200 ohm
R621	24366562	CF, 5600 ohm
R660	24366102	CF, 1k ohm
R661	24366332	CF, 3300 ohm
R662	24552181	OMF, 180 ohm, 1/2W
R664	24366103	CF, 10k ohm
R665	24366339	CF, 3.3 ohm
R666	24366752	CF, 7500 ohm
R667	24366105	CF, 1M ohm
R668	24366152	CF, 1500 ohm
R669	24552331	OMF, 330 ohm, 1/2W
R690	24366273	CF, 27k ohm
R691	24366223	CF, 22k ohm
R692	24366104	CF, 100k ohm
R693	24366103	CF, 10k ohm
R694	24366152	CF, 1500 ohm
R695	24366222	CF, 2200 ohm
R696	24366223	CF, 22k ohm
R697	24366223	CF, 22k ohm
R698	24366472	CF, 4700 ohm
R699	24366332	CF, 3300 ohm
R801	24004914	CC, 5.6M ohm, 1/2W
△ R802	24007932	Cement, 6.2 ohm, 10W
R810	24377334	CF, 330k ohm, 1W
R814	24366823	CF, 82k ohm
R815	24366221	CF, 220 ohm
R816	24367122	CF, 1200 ohm, $\pm 2\%$
R817	24321398	OMF, 0.39 ohm, 1/2W
R818	24384203	OMF, 20k ohm, 3W
R819	24366689	CF, 6.8 ohm
R820	24366102	CF, 1k ohm
△ R821	24007778	Cement, 180 ohm, 7W
R822	24366390	CF, 39 ohm
R823	24367622	CF, 6200 ohm, $\pm 2\%$
R824	24366123	CF, 12k ohm
△ R825	24531620	FR, 62 ohm, 1/2W
△ R826	24007552	Cement, 8200 ohm, 5W
R828	24366102	CF, 1k ohm
R829	24382473	OMF, 47k ohm, 1W
R830	24366272	CF, 2700 ohm
R831	24366103	CF, 10k ohm
R832	24383331	OMF, 330 ohm, 2W
R836	24322228	OMF, 0.22 ohm, 1W
△ R837	24000900	FR, 0.47 ohm, $\pm 10\%$, 1W
R838	24366392	CF, 3900 ohm
R851	24066954	VR, 2k ohm, 1/10W
R890	24000630	PTC Thermistor, Dual
R901	24946272	CC, 2700 ohm, $\pm 10\%$, 1/2W
R902	24946272	CC, 2700 ohm, $\pm 10\%$, 1/2W
R903	24946272	CC, 2700 ohm, $\pm 10\%$, 1/2W
△ R920	24000906	FR, 2.4 ohm, 2W
RA01	24366102	CF, 1k ohm
RA02	24366103	CF, 10k ohm
RA03	24366102	CF, 1k ohm

Location No.	Part No.	Description
RA04	24366103	CF, 10k ohm
RA05	24366101	CF, 100 ohm
RA06	24366101	CF, 100 ohm
RA07	24366101	CF, 100 ohm
RA08	24366102	CF, 1k ohm
RA09	24366103	CF, 10k ohm
RA10	24366102	CF, 1k ohm
RA11	24366472	CF, 4700 ohm
RA12	24366101	CF, 100 ohm
RA13	24366472	CF, 4700 ohm
RA14	24366102	CF, 1k ohm
RA15	24366223	CF, 22k ohm
RA17	24366102	CF, 1k ohm
RA19	24366103	CF, 10k ohm
RA20	24366102	CF, 1k ohm
RA22	24366103	CF, 10k ohm
RA23	24366471	CF, 470 ohm
RA24	24366102	CF, 1k ohm
RA25	24366103	CF, 10k ohm
RA27	24366392	CF, 3900 ohm
RA28	24366471	CF, 470 ohm
RA30	24366271	CF, 270 ohm
RA33	24366103	CF, 10k ohm
RA35	24366103	CF, 10k ohm
RA36	24366102	CF, 1k ohm
RA37	24366102	CF, 1k ohm
RA38	24366153	CF, 15k ohm
RA39	24366153	CF, 15k ohm
RA40	24366473	CF, 47k ohm
RA41	24366153	CF, 15k ohm
RA42	24366473	CF, 47k ohm
RA43	24366153	CF, 15k ohm
RA44	24366102	CF, 1k ohm
RA45	24366223	CF, 22k ohm
RA46	24366333	CF, 33k ohm
RA48	24366333	CF, 33k ohm
RA49	24366333	CF, 33k ohm
RA60	24366333	CF, 33k ohm
RA61	24360225	CF, 2.2M ohm, 1/8W
RA62	24366223	CF, 22k ohm
RA64	24946226	CC, 22kM ohm, $\pm 10\%$, 1/2W
RA65	24366223	CF, 22k ohm
RA67	24366273	CF, 27k ohm
RA68	24366123	CF, 12k ohm
RA69	24366823	CF, 82k ohm
RA70	24366153	CF, 15k ohm
RA73	24366223	CF, 22k ohm
RA74	24366223	CF, 22k ohm
RA75	24366102	CF, 1k ohm
RA78	24366103	CF, 10k ohm
RA79	24366152	CF, 1500 ohm
RA87	24366103	CF, 10k ohm
RA88	24366102	CF, 1k ohm
RA97	24383183	OMF, 18k ohm, 2W
RB01	24366333	CF, 33k ohm
RB03	24366103	CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366332	CF, 3300 ohm
RB06	24366473	CF, 47k ohm
RF01	24366102	CF, 1k ohm
RF02	24366152	CF, 1500 ohm
RF03	24366331	CF, 330 ohm
RF04	24366104	CF, 100k ohm
RF05	24366152	CF, 1500 ohm

Location No.	Part No.	Description
RF06	24366152	CF, 1500 ohm
RF07	24366122	CF, 1200 ohm
RF09	24366154	CF, 150k ohm
RF10	24366682	CF, 6800 ohm
RF11	24366104	CF, 100k ohm
RF12	24366682	CF, 6800 ohm
RF13	24366822	CF, 8200 ohm
RF14	24366103	CF, 10k ohm
RF15	24366333	CF, 33k ohm
RF17	24366223	CF, 22k ohm
RF18	24366103	CF, 10k ohm
RF19	24366223	CF, 22k ohm
RF21	24366152	CF, 1500 ohm
RF22	24366152	CF, 1500 ohm
RF23	24366152	CF, 1500 ohm
RF24	24366152	CF, 1500 ohm
RF26	24366102	CF, 1k ohm
RF27	24366103	CF, 10k ohm
RF28	24366223	CF, 22k ohm
RF29	24366103	CF, 10k ohm
RF30	24366102	CF, 1k ohm
RF31	24366102	CF, 1k ohm
RF32	24366102	CF, 1k ohm
RF33	24366153	CF, 15k ohm
RF34	24366103	CF, 10k ohm
RF35	24366103	CF, 10k ohm
RF36	24366103	CF, 10k ohm
RF37	24366103	CF, 10k ohm
RF38	24366102	CF, 1k ohm
RF39	24366333	CF, 33k ohm
RF40	24366223	CF, 22k ohm
RF41	24366682	CF, 6800 ohm
RF42	24366103	CF, 10k ohm
RF43	24366103	CF, 10k ohm
△ RF80	24531100	FR, 10 ohm, 1/2W
RF81	24383123	OMF, 12k ohm, 2W
RH01	24366102	CF, 1k ohm
RH02	24366152	CF, 1500 ohm
RH03	24366102	CF, 1k ohm
RH04	24366102	CF, 1k ohm
RH05	24366102	CF, 1k ohm
RH06	24366153	CF, 15k ohm
RH07	24366161	CF, 160 ohm
RH08	24366153	CF, 15k ohm
RH09	24366161	CF, 160 ohm
RH10	24366153	CF, 15k ohm
RH11	24366161	CF, 160 ohm
RH12	24366102	CF, 1k ohm
RH32	24366332	CF, 3300 ohm
RH33	24366103	CF, 10k ohm
RM07	24366103	CF, 10k ohm
RN02	24366102	CF, 1k ohm
RN05	24366152	CF, 1500 ohm
RN08	24366103	CF, 10k ohm
RR01	24366102	CF, 1k ohm
RR06	24366471	CF, 470 ohm
RV01	24366821	CF, 820 ohm
RV02	24366162	CF, 1600 ohm
RV03	24366102	CF, 1k ohm
RV05	24366101	CF, 100 ohm
RV06	24366101	CF, 100 ohm
RV07	24366102	CF, 1k ohm
RV09	24366101	CF, 100 ohm
RV10	24366102	CF, 1k ohm

Location No.	Part No.	Description
RV12	24366101	CF, 100 ohm
RV13	24366103	CF, 10k ohm
RV14	24366103	CF, 10k ohm
RV15	24366101	CF, 100 ohm
RV16	24366473	CF, 47k ohm
RV17	24366473	CF, 47k ohm
RV18	24366332	CF, 3300 ohm
RV19	24366222	CF, 2200 ohm
RV20	24366101	CF, 100 ohm
RV22	24366332	CF, 3300 ohm
RV23	24366473	CF, 47k ohm
RV24	24552750	OMF, 75 ohm, 1/2W
RV25	24366331	CF, 330 ohm
RV26	24366391	CF, 390 ohm
RV27	24366473	CF, 47k ohm
RV28	24366473	CF, 47k ohm
RV29	24366472	CF, 4700 ohm
RV30	24366102	CF, 1k ohm
RV31	24366910	CF, 91 ohm
RV32	24366820	CF, 82 ohm
RV33	24366332	CF, 3300 ohm
RV34	24366473	CF, 47k ohm
RV36	24366104	CF, 100k ohm
RV37	24366473	CF, 47k ohm
RV39	24366910	CF, 91 ohm
RV40	24366560	CF, 56 ohm
RV41	24366103	CF, 10k ohm
RV42	24366750	CF, 75 ohm
RV43	24366510	CF, 51 ohm
RV44	24366510	CF, 51 ohm
RV45	24366510	CF, 51 ohm
RV46	24366101	CF, 100 ohm
RV47	24366104	CF, 100k ohm
RV48	24366102	CF, 1k ohm
RV49	24366102	CF, 1k ohm
RV60	24366220	CF, 22 ohm
RV61	24366220	CF, 22 ohm
RV62	24366220	CF, 22 ohm
RV63	24366562	CF, 5600 ohm
RV64	24366562	CF, 5600 ohm
RV65	24366104	CF, 100k ohm
RV66	24366562	CF, 5600 ohm
RV67	24366562	CF, 5600 ohm
RV68	24366471	CF, 470 ohm
RV69	24366223	CF, 22k ohm
RV70	24366273	CF, 27k ohm
RV71	24366102	CF, 1k ohm
RV72	24366103	CF, 10k ohm
RV73	24366560	CF, 56 ohm
RX02	24366102	CF, 1k ohm
RX05	24366101	CF, 100 ohm
RX08	24366101	CF, 100 ohm
RX10	24366101	CF, 100 ohm
RX13	24366102	CF, 1k ohm
COILS & TRANSFORMERS		
L102	23262819	Coil, PIF, TRF1071D
L103	23237987	Coil, Peaking, TRF4100AC
L105	23237993	Coil, Peaking, TRF4339AC
L107	23237987	Coil, Peaking, TRF4100AC
L151	23262813	Coil, IF, TRF1077D
L152	23262813	Coil, IF, TRF1077D
L162	23261986	Coil, RF Choke, TRF9220
L201	23237974	Coil, Peaking, TRF4121AC

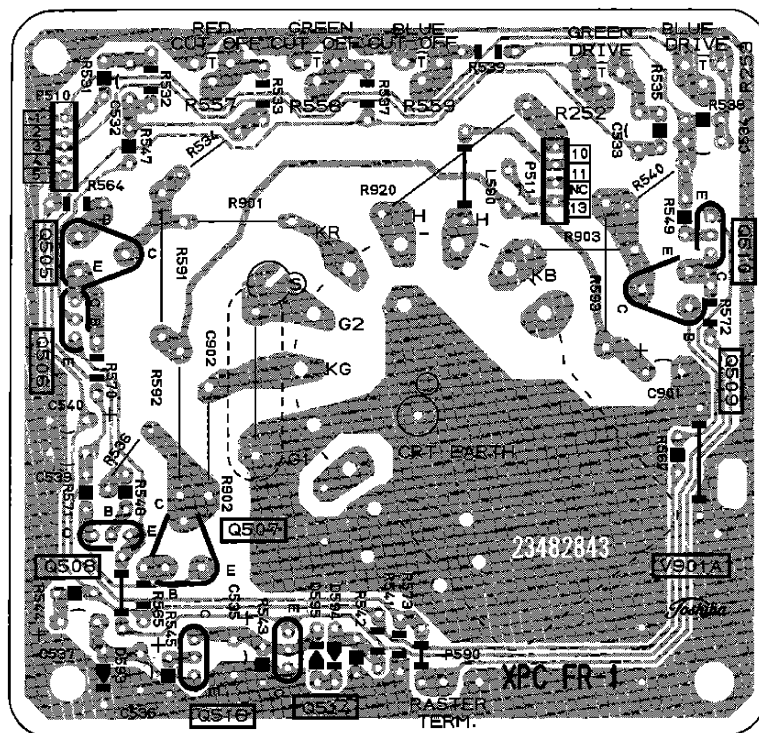
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L311	23261974	Coil, Choke, HC5-035
L315	23289100	Coil, Peaking, TRF4100AF
L405	23221739	Coil, Choke, TRF9252D
L406	23103859	Coil (Ferrite Bead), TEM2011
L411	23222660	Coil, Linearity, TLN2069
L441	23238934	Coil, Peaking, TRF4109AC
△ L462	23227245	Deflection Yoke, YS-58324
L503	23237987	Coil, Peaking, TRF4100AC
L551	23250972	Coil, 1H-Delay Matching, TRF5418D
L590	23289221	Coil, Peaking, TRF4221AF
L601	23237986	Coil, Peaking, TRF4120AC
L651	23232946	Coil, Variable, TRF3073D
L801	23221050	Coil, RF Choke, TLN1015
L802	23103859	Coil (Ferrite Bead), TEM2011
L803	23261975	Coil, Choke, TRF9229
L804	23261975	Coil, Choke, TRF9229
L805	23222694	Coil, Width, TLN2026
L806	23103859	Coil (Ferrite Bead), TEM2011
L807	23222694	Coil, Width, TLN2026
L901	23200779	Coil, Degaussing, TSB-2231
LA01	23238934	Coil, Peaking, TRF4109AC
LA02	23221803	Coil, Choke, TLN3040D
LB01	23262778	Coil, IF, TRF1112
LF01	23237998	Coil, Peaking, TRF4129AC
LF02	23237996	Coil, Peaking, TRF4189AC
LN02	23237996	Coil, Peaking, TRF4189AC
△ T401	23224983	Transformer, Horiz. Drive, TLN1039
△ T461	23236245	Transformer, Flyback, AT2078/21
T801	23211858	Line Filter, TRF3139
△ T803	23217074	Transformer, Converter, 47003593
SEMICONDUCTORS		
IC101	23318201	IC, T51496P
IC303	23119548	IC, AN5515
IC408	23318218	IC, μ PC7812H
IC660	23318392	IC, AN5262
IC661	23119668	IC, TDA2611A
IC801	23318232	IC, TDA4601
IC807	23318299	IC, L78MR05-FA
ICA01	23319010	IC, M34300-583SP
ICF01	23318486	IC, CF72303
ICF02	23318485	IC, CF70064
ICF09	B0470045	IC, TC4013BAP
ICH01	23119139	IC, AN5862K
ICV01	B0383505	IC, TA8720AN
Q103	23114691	Transistor, BC557A
Q104	23114689	Transistor, BC547A
Q161	A6708871	Transistor, 2SC388ATM
Q201	23114689	Transistor, BC547A
Q202	23114691	Transistor, BC557A
Q203	23114689	Transistor, BC547A
Q204	A6041876	Transistor, 2SK117-GR FA-2
Q205	A6342200	Transistor, 2SC2878-A
Q206	23114689	Transistor, BC547A
Q303B	23035308	Screw, BTB3X8SZN
Q363	23114689	Transistor, BC547A
Q402	A6330069	Transistor, 2SC2482 FA-1
△ Q404	23314375	Transistor, ON4409
Q501	B0379475	Transistor, TA8659AN
Q502	23114691	Transistor, BC557A

Location No.	Part No.	Description
Q503	23114691	Transistor, BC557A
Q505	23114693	Transistor, BF871
Q506	23114689	Transistor, BC547A
Q507	23114693	Transistor, BF871
Q508	23114689	Transistor, BC547A
Q509	23114693	Transistor, BF871
Q510	23114689	Transistor, BC547A
Q514	23114688	Transistor, BC327
Q516	23114689	Transistor, BC547A
Q697	23114689	Transistor, BC547A
Q698	A6342200	Transistor, 2SC2878-A
Q699	23114691	Transistor, BC557A
Q802	23314376	Transistor, ON4409
Q803	23314246	Transistor, 2SC2023 LF-4
Q804	A6547303	Transistor, 2SA1321
Q805	A6325067	Transistor, 2SC2230A-Y
Q806	23114546	Transistor, BC557B
QA05	23114689	Transistor, BC547A
QA06	23114689	Transistor, BC547A
QA07	23114689	Transistor, BC547A
QA09	23114691	Transistor, BC557A
QA10	23114689	Transistor, BC547A
QA11	23114546	Transistor, BC557B
QB01	23114689	Transistor, BC547A
QB02	23114689	Transistor, BC547A
QF03	23114689	Transistor, BC547A
QF04	A6734590	Transistor, 2SC752GTM-Y
QF05	A6734590	Transistor, 2SC752GTM-Y
QF06	A6734590	Transistor, 2SC752GTM-Y
QF07	23114689	Transistor, BC547A
QF08	23114689	Transistor, BC547A
QF10	23114689	Transistor, BC547A
QF11	23114689	Transistor, BC547A
QF80	23314374	Transistor, BD945
QH03	23114689	Transistor, BC547A
QH04	23114689	Transistor, BC547A
QH05	23114689	Transistor, BC547A
QV02	23114691	Transistor, BC557A
QV03	23114689	Transistor, BC547A
QV05	23114689	Transistor, BC547A
QV06	23114689	Transistor, BC547A
QV07	23114689	Transistor, BC547A
QV09	23114632	Transistor, BC547B
QV10	23114689	Transistor, BC547A
QV11	A6342200	Transistor, 2SC2878-A
D201	23115599	Diode, 1N4148
D202	23115599	Diode, 1N4148
D241	A7150041	Diode, 1SS104
D302	23118479	Diode, BYD33J
D305	23118479	Diode, BYD33J
D314	A7117205	Diode, Zener, 04AZ12X
D315	A7116715	Diode, Zener, 04AZ7.5Y
D367	23115599	Diode, 1N4148
D401	A7116925	Diode, Zener, 04AZ9.1Z
D402	A7117715	Diode, Zener, 04AZ20Y
D403	A7117215	Diode, Zener, 04AZ12Y
D406	23118479	Diode, BYD33J
D408	23118052	Diode, RU4Z
D410	A7116815	Diode, Zener, 04AZ8.2Y
D593	23115599	Diode, 1N4148
D594	23115599	Diode, 1N4148
D595	23115599	Diode, 1N4148
D660	23115599	Diode, 1N4148
D695	23115599	Diode, 1N4148

Location No.	Part No.	Description
D696	23115599	Diode, 1N4148
D697	23115599	Diode, 1N4148
D698	23115599	Diode, 1N4148
D699	23115599	Diode, 1N4148
D803	23118173	Diode, RBV-406M-LFA
D805	23118479	Diode, BYD33J
D806	23118479	Diode, BYD33J
D807	23118479	Diode, BYD33J
D808	23118736	Diode, BYV96E
D809	23118451	Diode, RU4A
D810	23118479	Diode, BYD33J
D811	23118479	Diode, BYD33J
D812	A7116515	Diode, Zener, 04AZ6.2Y
DA13	23115599	Diode, 1N4148
DA14	23115599	Diode, 1N4148
DA15	23115599	Diode, 1N4148
DA16	23115599	Diode, 1N4148
DA17	23115599	Diode, 1N4148
DA21	23115599	Diode, 1N4148
DA22	23115599	Diode, 1N4148
DA27	23115599	Diode, 1N4148
DA28	23115599	Diode, 1N4148
DA30	23115878	Diode, Zener, μ PC574J(L)
DA31	23115599	Diode, 1N4148
DA33	23115599	Diode, 1N4148
DA34	23115599	Diode, 1N4148
DE40	23118969	Diode (LED), MV57124, Red
DE41	23318436	Diode (LED), MV53124A, Yellow
DF02	A7288690	Variable Capacitor, 1SV101
DF03	23115599	Diode, 1N4148
DF04	23115599	Diode, 1N4148
DF05	23115599	Diode, 1N4148
DF06	23115599	Diode, 1N4148
DF07	23115599	Diode, 1N4148
DF80	A7116415	Diode, Zener, 04AZ5.6Y
DH01	23115599	Diode, 1N4148
DH02	23115599	Diode, 1N4148
DH03	23115599	Diode, 1N4148
DH04	23115599	Diode, 1N4148
DH05	23115599	Diode, 1N4148
DH06	23115599	Diode, 1N4148
DH07	A7116215	Diode, Zener, 04AZ4.7Y
DH08	23115599	Diode, 1N4148
DH11	23115599	Diode, 1N4148
DH12	23115599	Diode, 1N4148
DV01	A7116915	Diode, Zener, 04AZ9.1Y
DV02	23115599	Diode, 1N4148
DV03	A7116215	Diode, Zener, 04AZ4.7Y
MISCELLANEOUS		
B204	23848140	Holder
△ F801	23144896	Fuse, 2.0A
F801A	23165102	Fuse Holder
K901	23120370	Sokcet, CRT, 8P
P661	23365430	Earphone Jack
PF01	23367684	Plug, 11P
PF02	23367677	Plug, 4P
PH01	23365598	21 Pin Connector
PH02	23365598	21 Pin Connector
PV01	23365515	Jack, 4P
PV02	23365428	Jack Phono, 2P
S202	23145542	Switch, Lever, 1C3P
S301	23145682	Switch, Lever, 1C3P

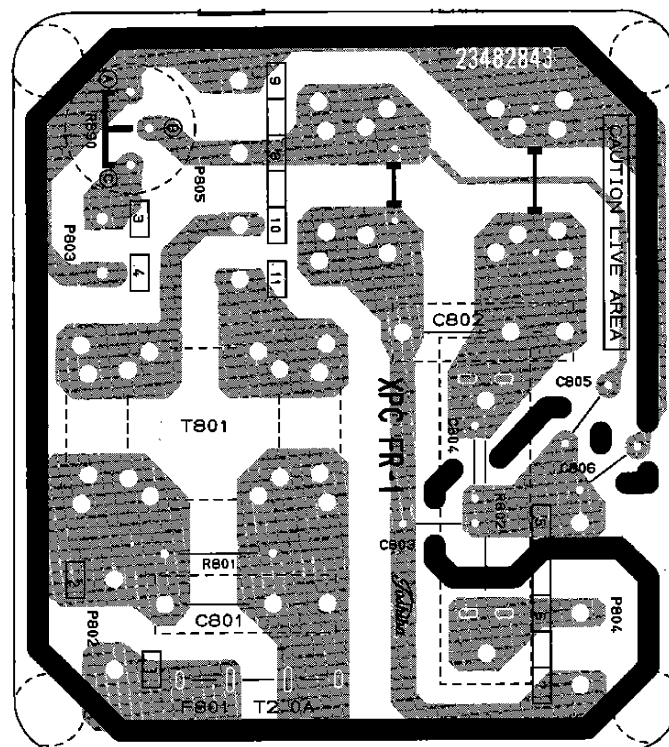
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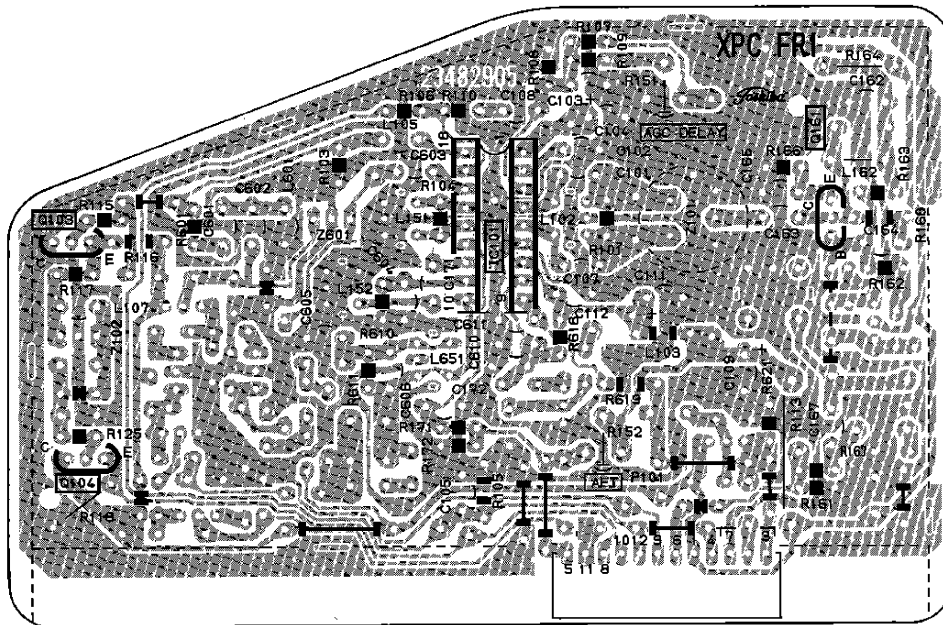
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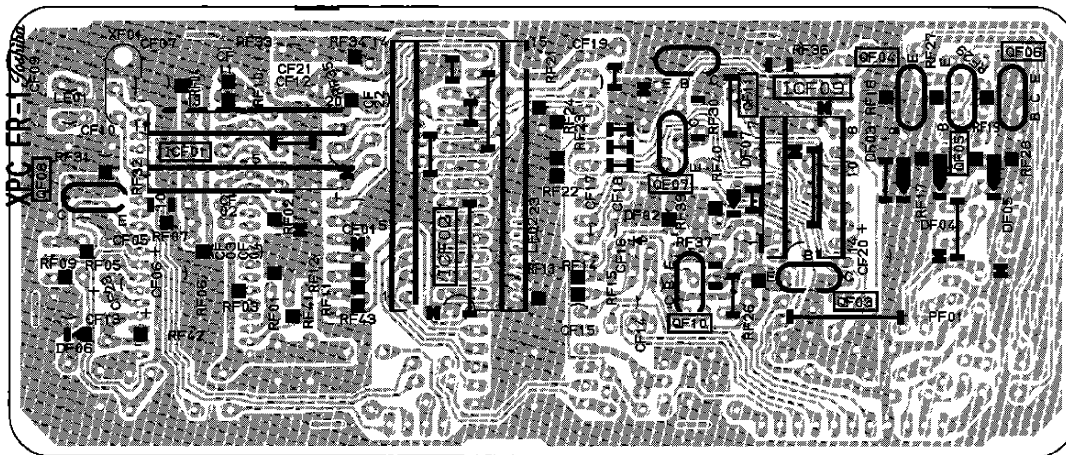
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BOTTOM (FOIL) SIDE

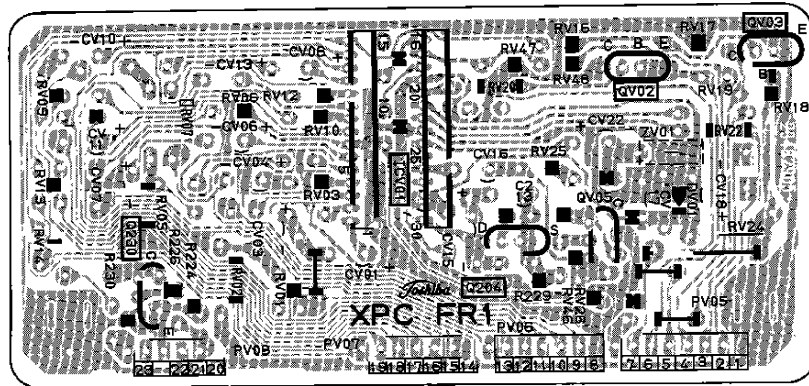


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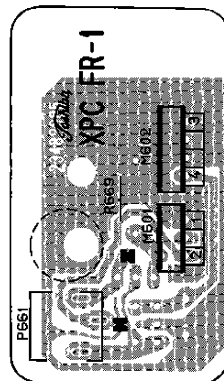
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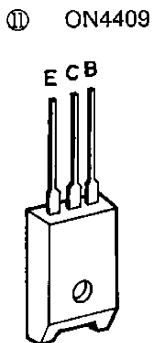
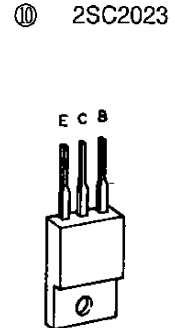
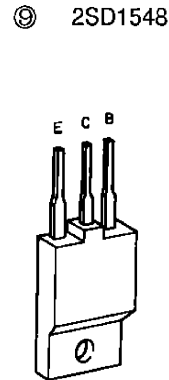
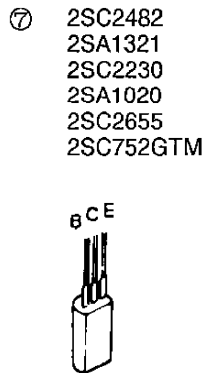
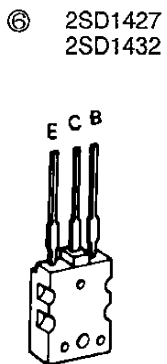
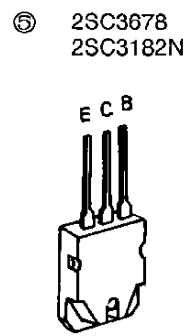
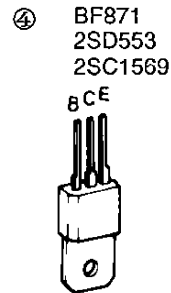
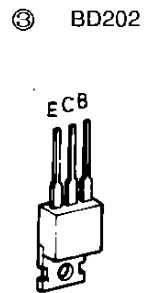
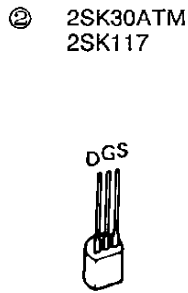
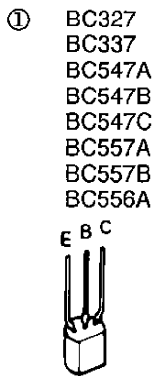
A/V BOARD PB0039-3 **BOTTOM (FOIL) SIDE**



H/P BOARD PB0039-4 **BOTTOM (FOIL) SIDE**



TERMINAL VIEW OF TRANSISTORS



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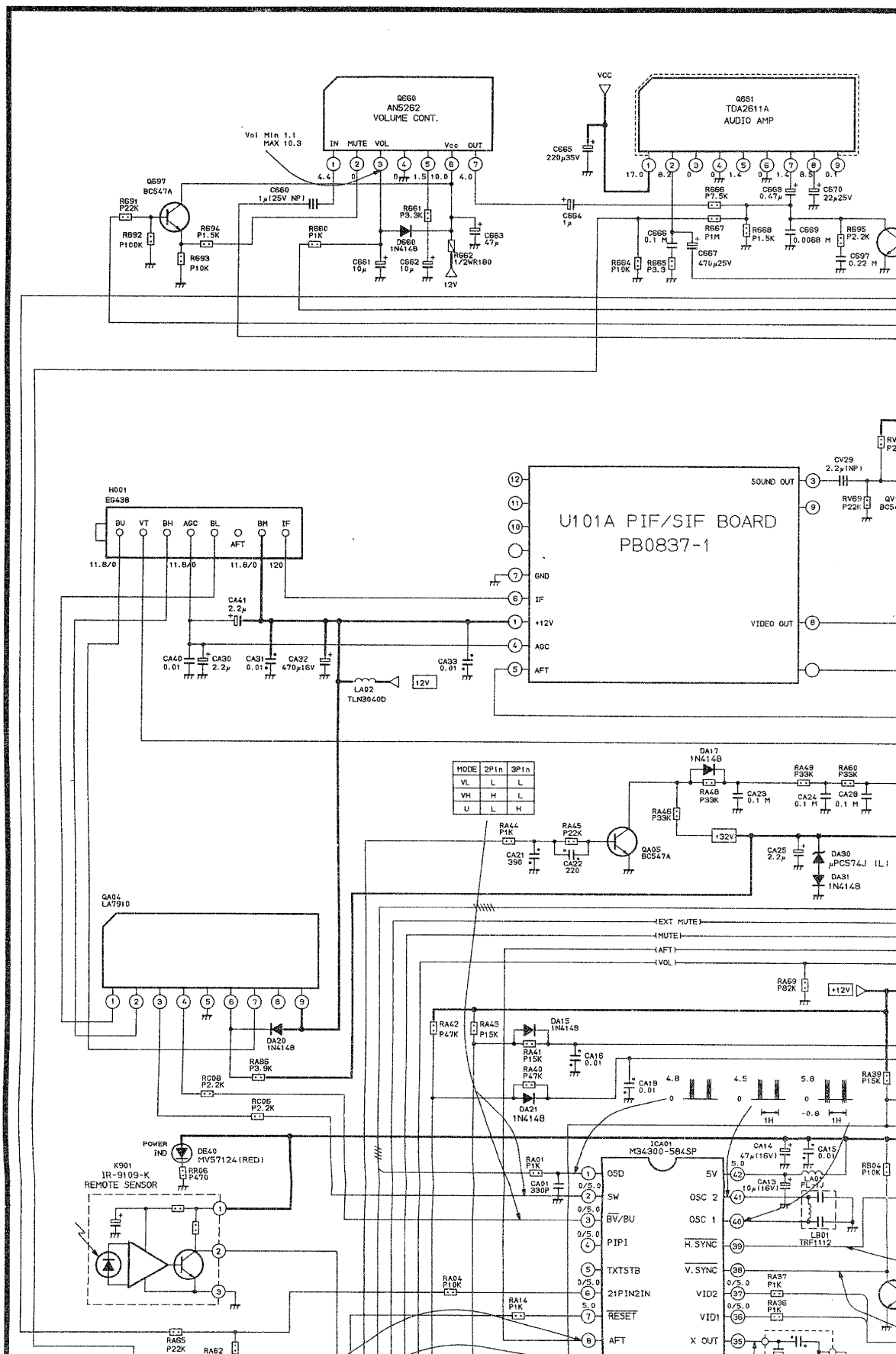
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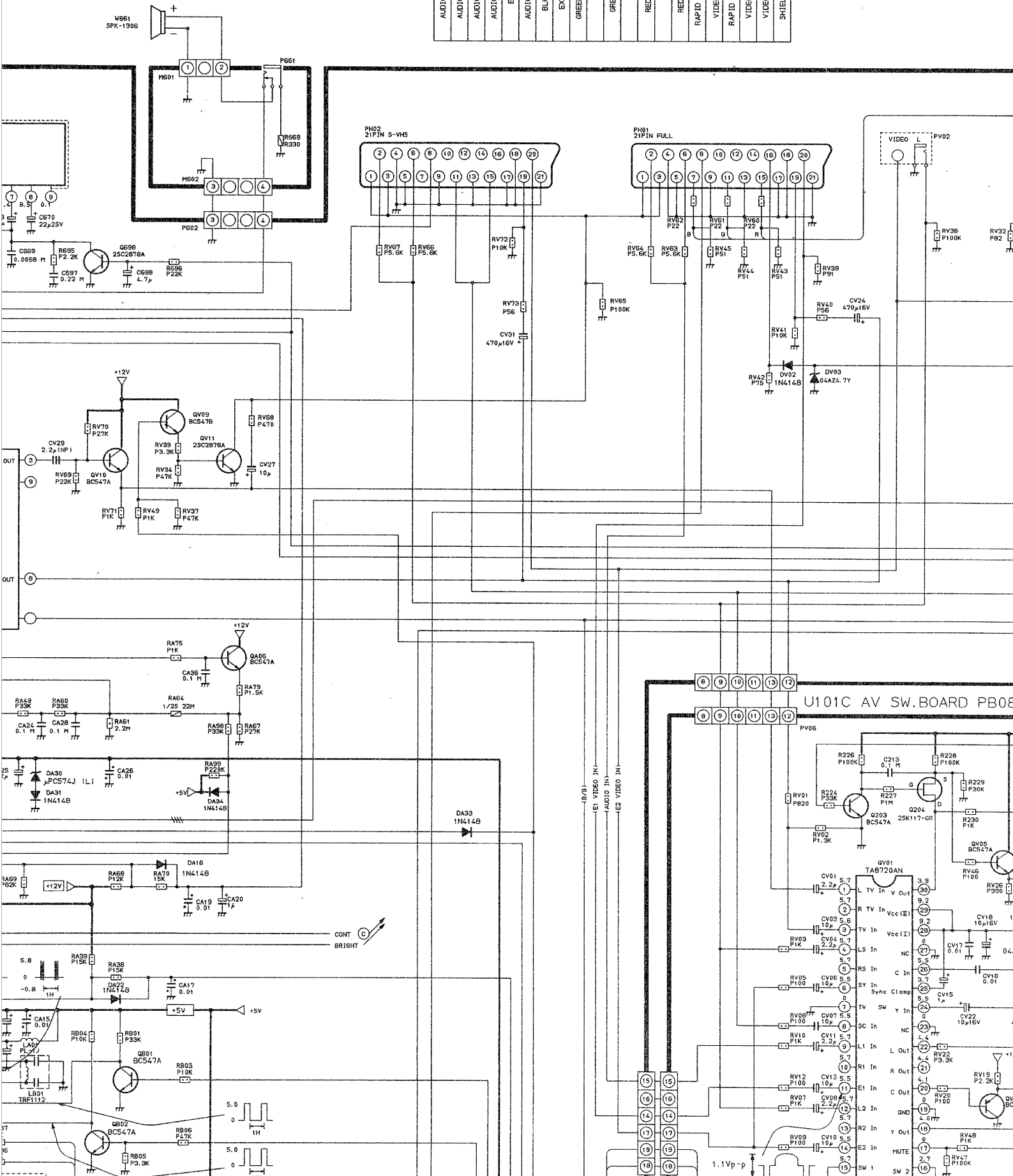
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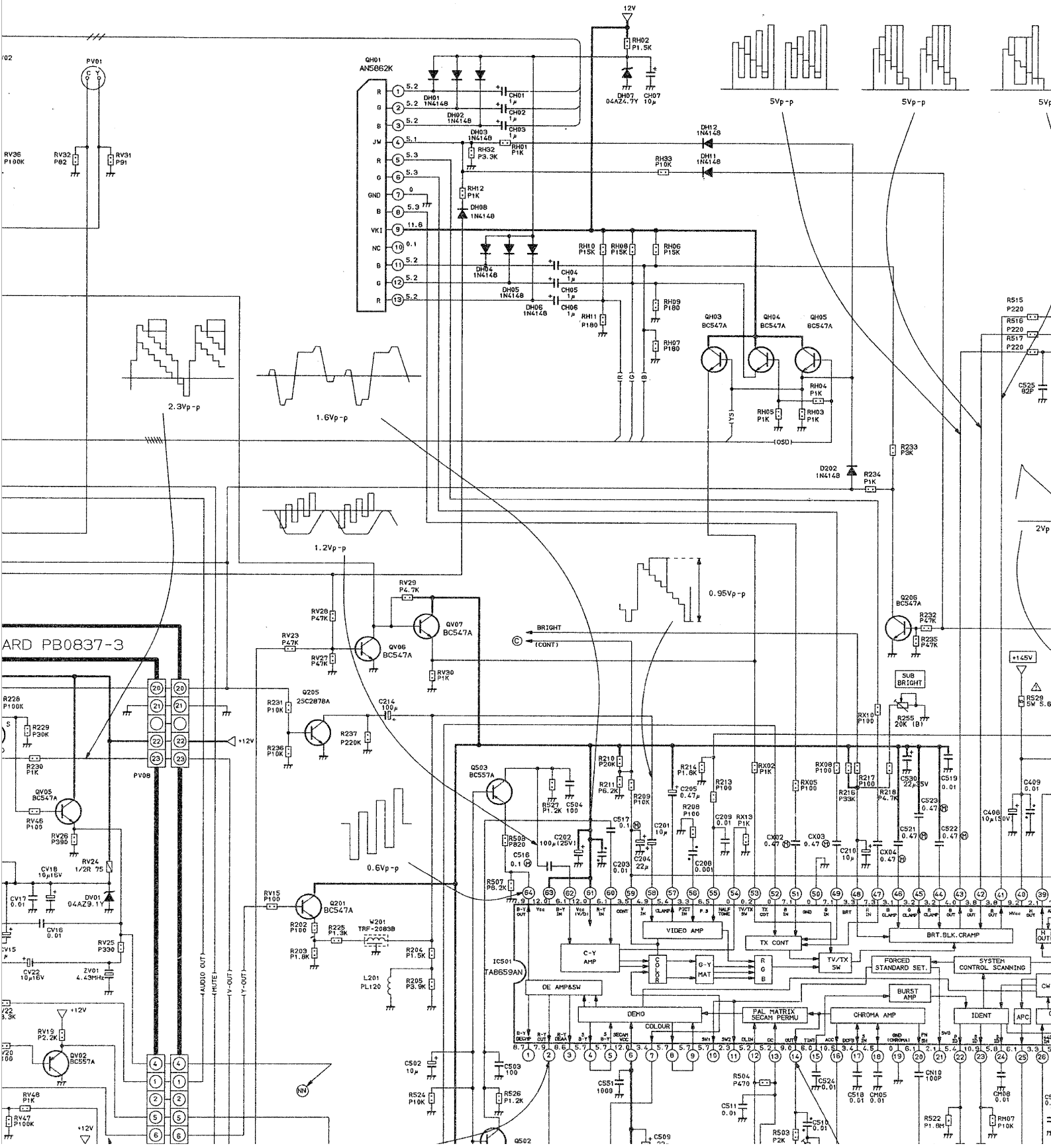


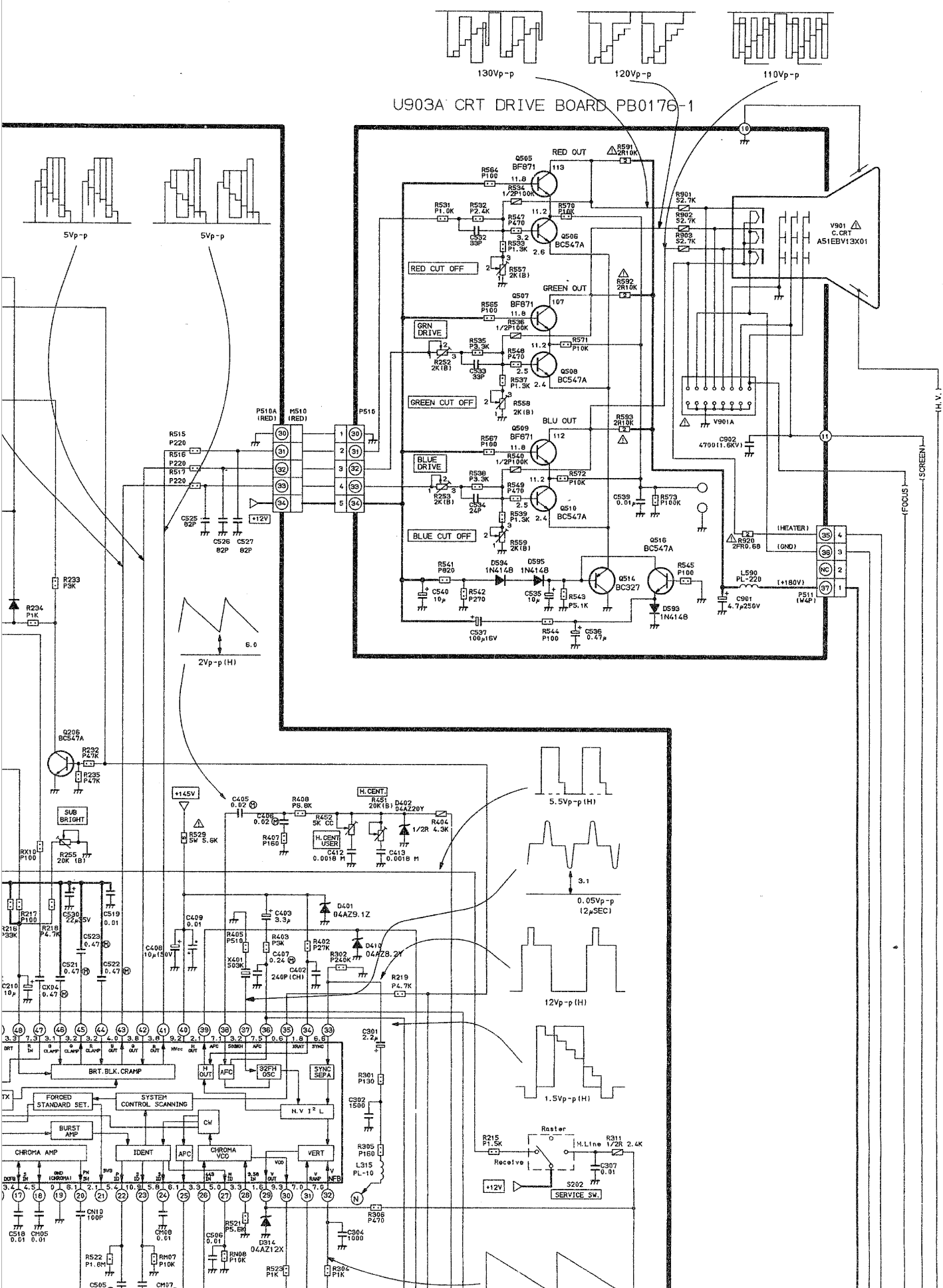
U903E H/P BOARD
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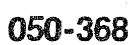
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AUDIO OUT(R)	AUDIO IN(R)	AUDIO OUT(L)	AUDIO EARTH	EARTH	AUDIO IN(L)	BLUE IN	EXT/TV	GREEN EARTH	NC	GREEN IN	NC	RED EARTH	NC	RED IN	RAPID BLANKING	VIDEO EARTH	RAPID BLK EARTH	VIDEO OUT	VIDEO IN	SHIELD EARTH

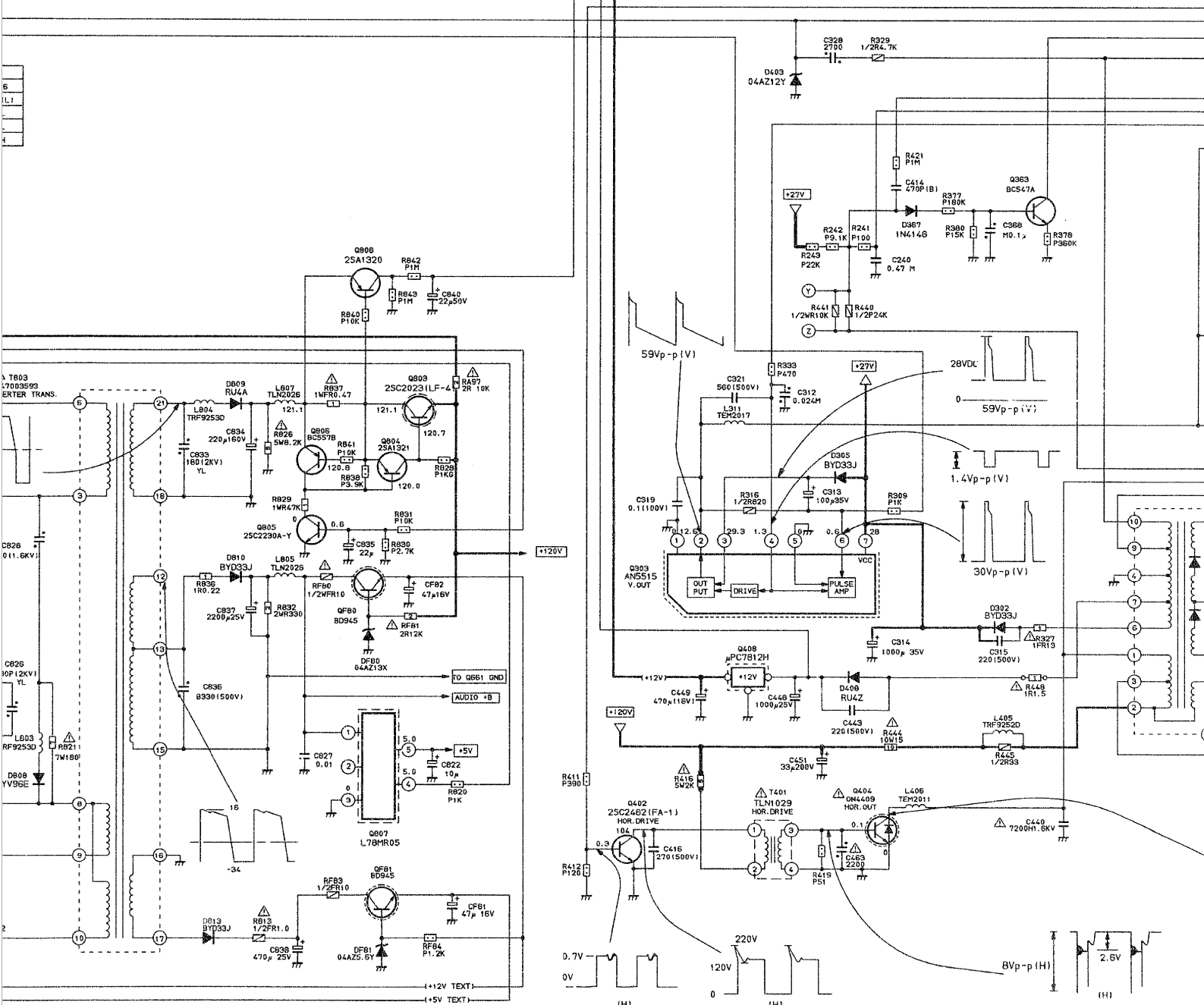


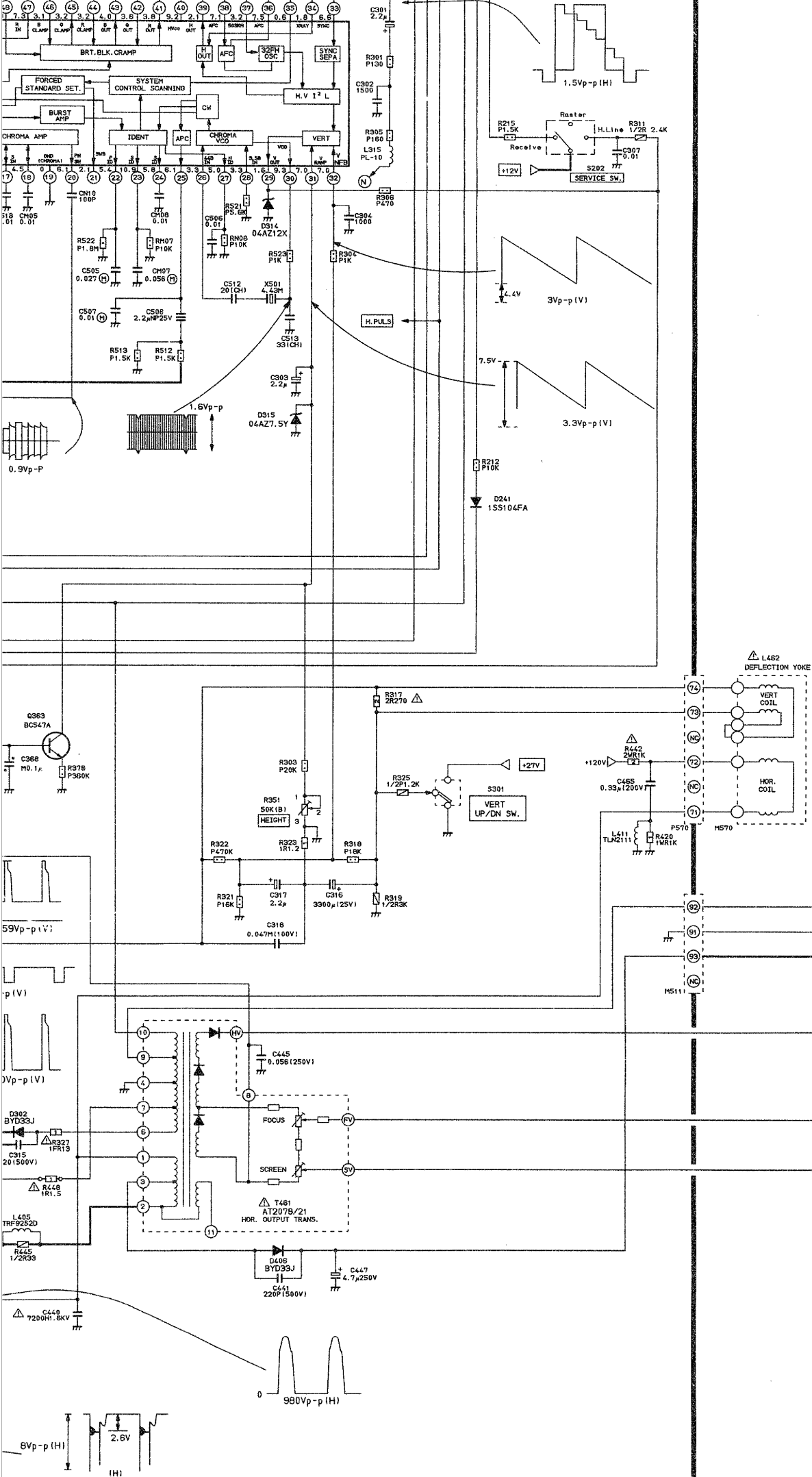
U902 MAIN BOARD PB0838











IMPORTANT SAFETY NOTICE
Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards achieved by during manufacture will be maintained following any servicing procedure.

3. The voltage readings may vary as much as $\pm 20\%$.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour controls are adjusted for the best picture, making sure that the Contrast, Brightness and Colour controls are set near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low capacity probe.

IMPORTANT SAFETY NOTICE
Component marked with the International Hazard Symbol must, if changed, be replaced by an approved type and must be mounted as the original. This will ensure that the safety standards achieved in during manufacture will be maintained following any servicing procedure.

adhered to during manufacture will be maintained following any servicing procedure

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. I_{a} or ground level of instruments should be connected to the ground marked (L) in the schematic on checking Non-isolated circuit surrounded by mark set would be connected to the points marked (L) on checking in circuit.
3. The voltage readings may be around 4.5-12V.
4. Check that the Tuning, A.C. and Colour controls are adjusted for the best picture and that the Contrast, Brightness and Colour controls are set back from their maximum positions.
5. The waveforms were taken using a standard colour bar signal and were observed using a wide band oscilloscope via a low-capacity probe.

EXPRESSION

- VALUE OF RESISTOR, CAPACITOR AND INDUCTOR**
1. Resistance is shown in ohm, $K=1,000$, $M=1,000,000$.
 2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 are in pF.
 3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH , and the values less than 1 are expressed in mH .

COINTEGRATING SYMBOL

RESISTORS

Per lead to value:		Sufficient to value:	
TYPE	MARK	TOLERANCE	MARK
Carbon Comp.	S	± 1%	(F)
Carbon Metal Fin	P	± 2%	(G)
Ins. Carbon Film	R		
Wire Wound	W	Sufficient to VR value:	
Constant current W w	WO MARK	LAW	MARK
Fusible Res.	FR	Liquid	(B)
		Quartz	(C)

- Plotting Markings:

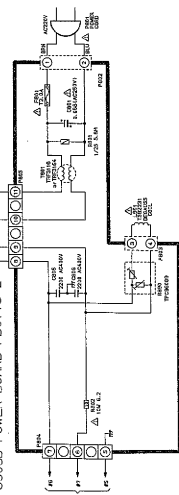
WATTAGE	MARK
1/60W	
1/40W	
1/2W	
1W	
2W	

WATTAGE	MARK
3W	
6W	
10W	
15W	
20W	
25W	

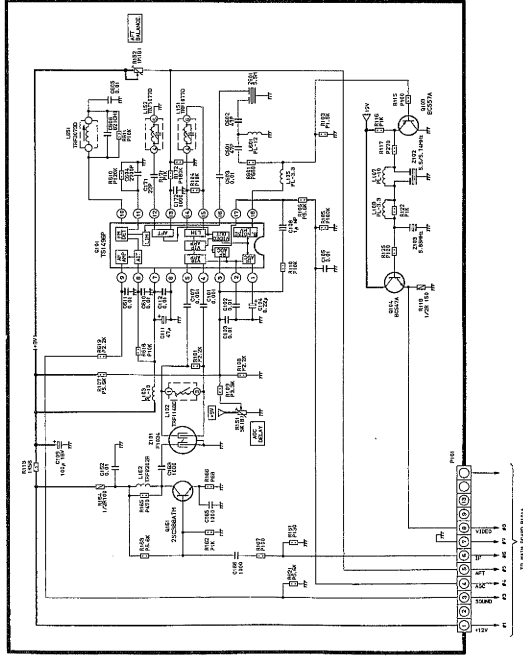
CAPACITORS

Rating Markings:		Mark
Type		
Ceramic Disc 50V Only		±1
Electrolytic		50 ±1
Electrolytic Non-Polar		±5 ±10 ±20
Variable Capacitor		±2
Other		±1

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10	0.5M/100				
11	0.5M/100				



2100TNT

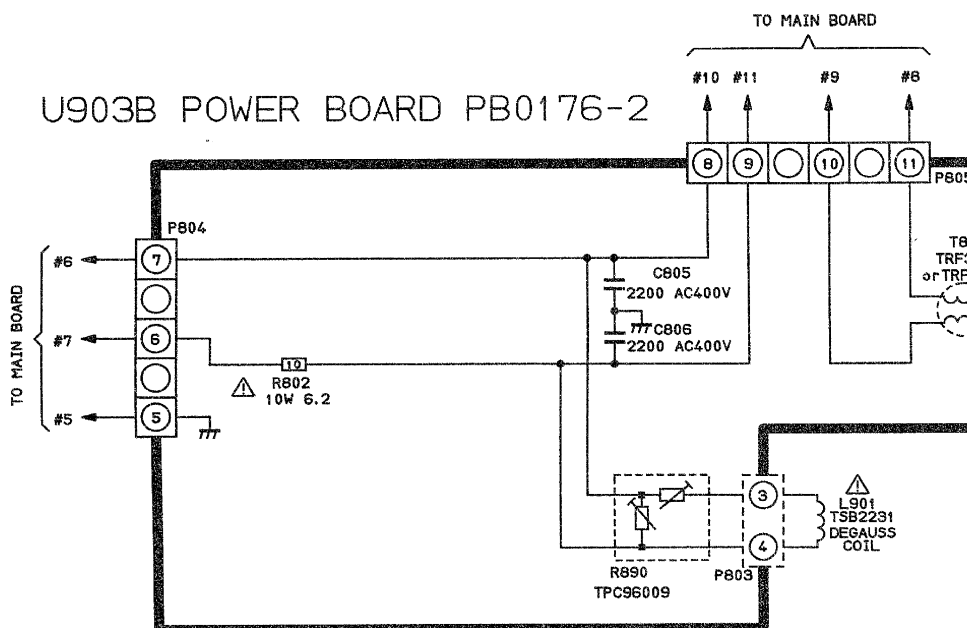
SCHEMATIC DIAGRAM (2/2)

IMPORTANT SAFETY NOTICE

Component marked with the International Hazard Symbol must, if changed, be replaced with an approved type and must be mounted as the original. This will ensure that the product, as adhered to during manufacture will be maintained following any servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltage readings were obtained using a high impedance digital voltmeter.
2. (—) or ground lead of instruments should be connected to the ground point marked on the schematic on checking Non-isolated circuit surrounded by mark \square to the points marked (∇) on checking isolated circuit.
3. The voltage readings may vary as much as $\pm 20\%$.
4. Check that the Tuning, A.F.C., Brightness, Contrast and Colour control are set to the best picture, making sure that the Contrast, Brightness and Colour control are near to their mid-positions.
5. The waveforms were taken using a standard colour bar signal and a wide band oscilloscope via a low capacity probe.



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must, if changed, be replaced by an
 ensure that the safety standards
 any servicing procedure.

digital voltmeter.
 to the ground marked (⊥) in the
 by mark but should be connected
 it.

and Colour controls are adjusted for
 brightness and Colour controls are set

ear signal and were observed using a

NOTES:

1. This circuit diagram is subject to change without notice.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000.
2. Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH , and the values less than 1 in H.

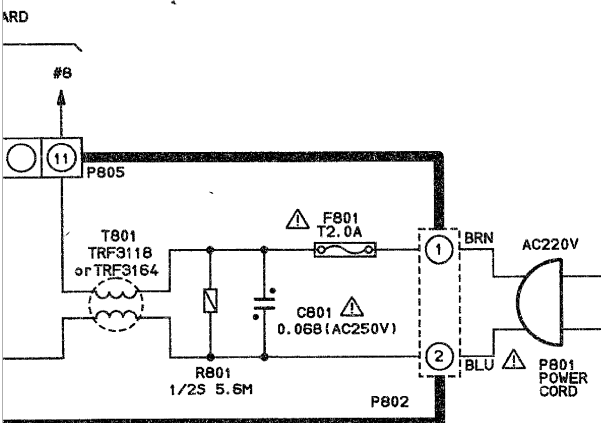
GROUNDING SYMBOL

1. \perp : Non isolated ground, \equiv : Isolated ground.

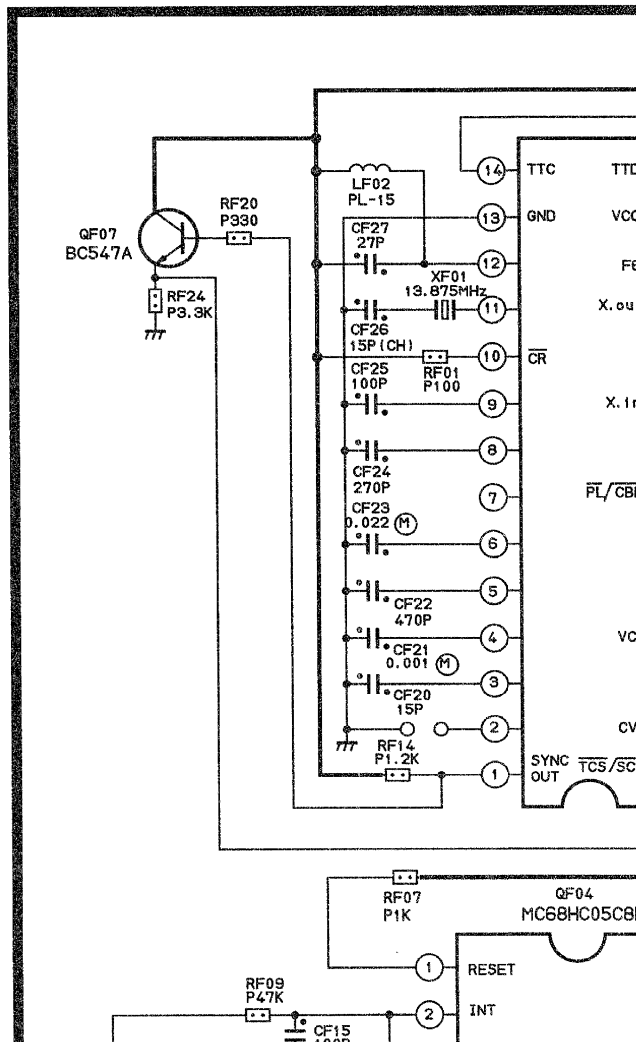
RESIST

Prefixed

Ca
Oxi
Ins.
W
Ceme
F



901
 32231
 9AUSS
 OIL



RESISTORS

Prefixed to values:

TYPE	MARK
Carbon Comp.	S
Oxide Metal Film	R
Ins. Carbon Film	P
Wire Wound	W
Cement covered W.W.	NO MARK
Fusible Res.	FR

Suffixes to values:

TOLERANCE	MARK
±1%	(F)
±2%	(G)

Suffixes to VR values:

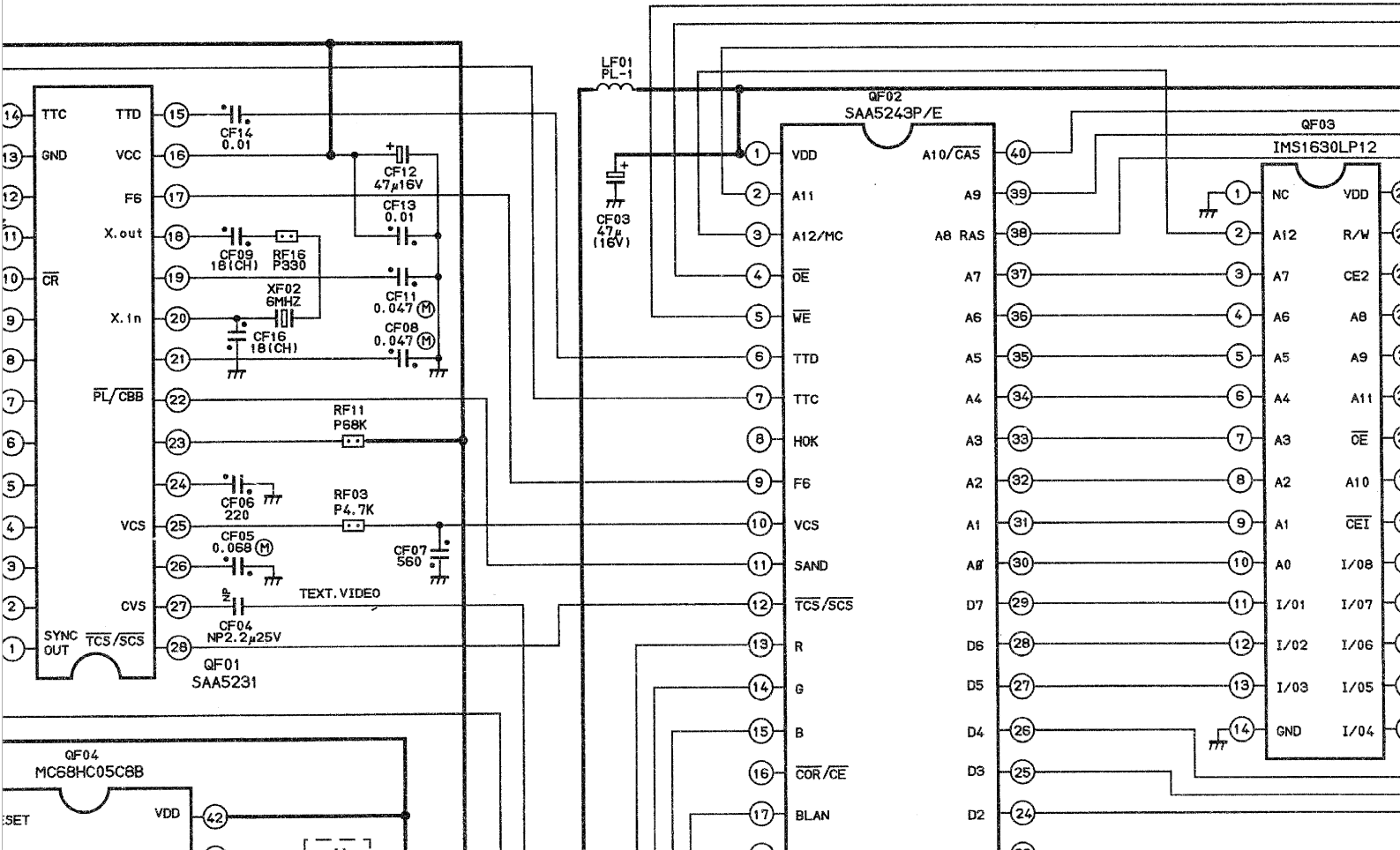
LAW	MARK
Linear	(B)
'C' Curve Characteristic	(C)

Rating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	
2W	

WATTAGE	MARK
3W	
5W	
10W	
15W	
20W	
25W	

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CAPACITORS

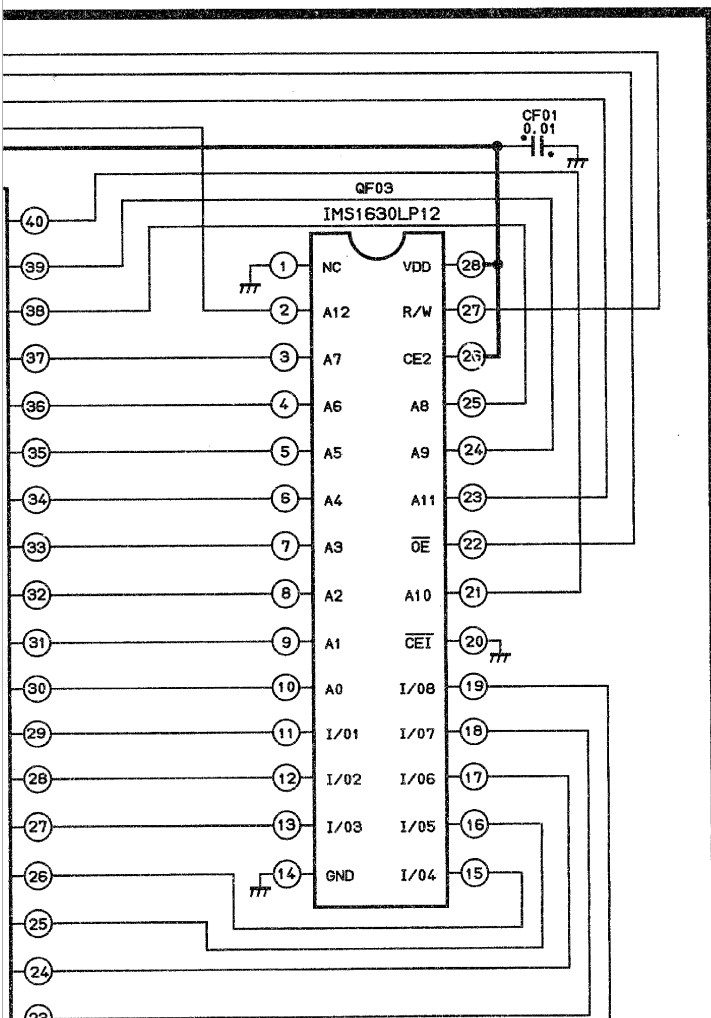
Rating Markings:

Type	Mark
Ceramic Disc 50V Only	
Electrolytic	
Electrolytic Non-Polar	
Variable Capacitor	
Other	

Rating Markings:

WATTAGE	MARK
1/6W	
1/4W	
1/2W	
1W	
2W	

WATTAGE	MARK
3W	
5W	
10W	
15W	
20W	
25W	



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